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**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|-----------|
| 2N7000      | 60                   | 5                         | 0.2                | 0.4                | TO-92         |                     |      | Fairchild |
| 2N7002      | 60                   | 7.5                       | 0.115              | 0.2                | SOT-23        |                     |      | Fairchild |
| 2SJ377      | -60                  | 0.19                      | -5                 |                    | POWER MOLD    | 2SJ377              | A    | Toshiba   |
| 2SJ378      | -60                  | 0.19                      | -5                 |                    | TPS           | 2SJ378              | A    | Toshiba   |
| 2SJ380      | -100                 | 0.21                      | -12                |                    | TO-220IS      | 2SJ380              | A    | Toshiba   |
| 2SJ401      | -60                  | 0.045                     | -20                |                    | TO-220FL/SM   | 2SJ401              | A    | Toshiba   |
| 2SJ402      | -60                  | 0.038                     | -30                |                    | TO-220FL/SM   | 2SJ402              | A    | Toshiba   |
| 2SJ407      | -200                 | 1                         | -6                 |                    | TO-220IS      | 2SJ407              | A    | Toshiba   |
| 2SJ412      | -100                 | 0.21                      | -16                |                    | TO-220FL/SM   | 2SJ412              | A    | Toshiba   |
| 2SJ419      | -12                  | 0.082                     | -4                 |                    | SOP-8(Single) |                     |      | Sanyo     |
| 2SJ420      | -12                  | 0.063                     | -5                 |                    | SOP-8(Single) |                     |      | Sanyo     |
| 2SJ421      | -30                  | 0.058                     | -5                 |                    | SOP-8(Single) | TPC8104-H           | A    | Sanyo     |
| 2SJ438      | -60                  | 0.19                      | -5                 |                    | TO-220IS      | 2SJ438              | A    | Toshiba   |
| 2SJ439      | -16                  | 0.2                       | -5                 |                    | POWER MOLD    | 2SJ439              | A    | Toshiba   |
| 2SJ464      | -100                 | 0.09                      | -18                |                    | TO-220IS      | 2SJ464              | A    | Toshiba   |
| 2SJ465      | -16                  | 0.71                      | -2                 |                    | POWER-MINI    | 2SJ465              | A    | Toshiba   |
| 2SJ468      | -30                  | 0.1                       | -4                 |                    | SOP-8(Single) | TPC8104-H           | A    | Sanyo     |
| 2SJ469      | -30                  | 0.075                     | -5                 |                    | SOP-8(Single) | TPC8104-H           | A    | Sanyo     |
| 2SJ482      | -60                  | 0.19                      | -5                 |                    | SP            | 2SJ482              | A    | Toshiba   |
| 2SJ507      | -60                  | 0.7                       | -1                 |                    | TO-92MOD      | 2SJ507              | A    | Toshiba   |
| 2SJ508      | -100                 | 1.9                       | -1                 |                    | POWER-MINI    | 2SJ508              | A    | Toshiba   |
| 2SJ509      | -100                 | 1.9                       | -1                 |                    | TO-92MOD      | 2SJ509              | A    | Toshiba   |
| 2SJ511      | -30                  | 0.45                      | -2                 |                    | POWER-MINI    | 2SJ511              | A    | Toshiba   |
| 2SJ512      | -250                 | 1.25                      | -5                 |                    | TO-220IS      | 2SJ512              | A    | Toshiba   |
| 2SJ513      | -200                 | 0.5                       | -9.5               |                    | TO-220IS      | 2SJ513              | A    | Toshiba   |
| 2SJ514      | -250                 | 0.625                     | -7.5               |                    | TO-220IS      | 2SJ514              | A    | Toshiba   |
| 2SJ515      | -200                 | 0.64                      | -7                 |                    | TO-220IS      | 2SJ515              | A    | Toshiba   |
| 2SJ516      | -250                 | 0.8                       | -6.5               |                    | TO-220IS      | 2SJ516              | A    | Toshiba   |
| 2SJ525      | -30                  | 0.12                      | -5                 |                    | TPS           | 2SJ525              | A    | Toshiba   |
| 2SJ537      | -50                  | 0.19                      | -5                 |                    | TO-92MOD      | 2SJ537              | A    | Toshiba   |
| 2SK1119     | 1000                 | 3.8                       | 4                  |                    | TO-220AB      | 2SK1119             | A    | Toshiba   |
| 2SK1120     | 1000                 | 1.8                       | 8                  |                    | TO-3P(N)      | 2SK1120             | A    | Toshiba   |
| 2SK1359     | 1000                 | 3.8                       | 5                  |                    | TO-3P(N)      | 2SK1359             | A    | Toshiba   |
| 2SK1365     | 1000                 | 1.8                       | 7                  |                    | TO-3P(N)IS    | 2SK1365             | A    | Toshiba   |
| 2SK1489     | 1000                 | 1                         | 12                 |                    | TO-3P(L)      | 2SK1489             | A    | Toshiba   |
| 2SK1930     | 1000                 | 3.8                       | 4                  |                    | TO-220FL/SM   | 2SK1930             | A    | Toshiba   |
| 2SK2173     | 60                   | 0.017                     | 50                 |                    | TO-3P(N)      | 2SK2173             | A    | Toshiba   |
| 2SK2200     | 100                  | 0.35                      | 3                  |                    | TPS           | 2SK2200             | A    | Toshiba   |
| 2SK2201     | 100                  | 0.35                      | 3                  |                    | POWER MOLD    | 2SK2201             | A    | Toshiba   |
| 2SK2229     | 60                   | 0.16                      | 5                  |                    | TPS           | 2SK2229             | A    | Toshiba   |
| 2SK2231     | 60                   | 0.16                      | 5                  |                    | POWER MOLD    | 2SK2231             | A    | Toshiba   |
| 2SK2232     | 60                   | 0.046                     | 25                 |                    | TO-220IS      | 2SK2232             | A    | Toshiba   |
| 2SK2233     | 60                   | 0.03                      | 45                 |                    | TO-3P(N)      | 2SK2233             | A    | Toshiba   |
| 2SK2266     | 60                   | 0.03                      | 45                 |                    | TO-220FL/SM   | 2SK2266             | A    | Toshiba   |
| 2SK2267     | 60                   | 0.011                     | 60                 |                    | TO-3P(L)      | 2SK2267             | A    | Toshiba   |
| 2SK2274     | 700                  | 1.7                       | 5                  |                    | TO-220IS      | 2SK2274             | A    | Toshiba   |
| 2SK2311     | 60                   | 0.046                     | 25                 |                    | TO-220FL/SM   | 2SK2311             | A    | Toshiba   |
| 2SK2312     | 60                   | 0.017                     | 45                 |                    | TO-220IS      | 2SK2312             | A    | Toshiba   |
| 2SK2313     | 60                   | 0.011                     | 60                 |                    | TO-3P(N)      | 2SK2313             | A    | Toshiba   |
| 2SK2314     | 100                  | 0.085                     | 27                 |                    | TO-220AB      | 2SK2314             | A    | Toshiba   |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|---------|
| 2SK2350     | 200                  | 0.4                       | 8.5                |                    | TO-220IS      | 2SK2350             | A    | Toshiba |
| 2SK2376     | 60                   | 0.017                     | 45                 |                    | TO-220FL/SM   | 2SK2376             | A    | Toshiba |
| 2SK2381     | 200                  | 0.8                       | 5                  |                    | TO-220IS      | 2SK2381             | A    | Toshiba |
| 2SK2382     | 200                  | 0.18                      | 15                 |                    | TO-220IS      | 2SK2382             | A    | Toshiba |
| 2SK2385     | 60                   | 0.03                      | 36                 |                    | TO-220IS      | 2SK2385             | A    | Toshiba |
| 2SK2389     | 700                  | 1.7                       | 5                  |                    | TO-220AB      | 2SK2389             | A    | Toshiba |
| 2SK2391     | 100                  | 0.085                     | 20                 |                    | TO-220IS      | 2SK2391             | A    | Toshiba |
| 2SK2398     | 60                   | 0.03                      | 45                 |                    | TO-3P(N)      | 2SK2233             | A    | Toshiba |
| 2SK2399     | 100                  | 0.23                      | 5                  |                    | POWER MOLD    | 2SK2399             | A    | Toshiba |
| 2SK2400     | 100                  | 0.23                      | 5                  |                    | TPS           | 2SK2400             | A    | Toshiba |
| 2SK2401     | 200                  | 0.18                      | 15                 |                    | TO-220FL/SM   | 2SK2401             | A    | Toshiba |
| 2SK2417     | 250                  | 0.5                       | 7.5                |                    | TO-220IS      | 2SK2417             | A    | Toshiba |
| 2SK2440     | 20                   | 0.038                     | 6                  |                    | SOP-8(Single) | TPC8008             | A    | Sanyo   |
| 2SK2441     | 20                   | 0.032                     | 7                  |                    | SOP-8(Single) | TPC8008             | A    | Sanyo   |
| 2SK2442     | 30                   | 0.029                     | 7                  |                    | SOP-8(Single) | TPC8006-H           | A    | Sanyo   |
| 2SK2445     | 60                   | 0.018                     | 50                 |                    | TO-3P(N)      | 2SK2445             | A    | Toshiba |
| 2SK2466     | 100                  | 0.046                     | 30                 |                    | TO-220IS      | 2SK2466             | A    | Toshiba |
| 2SK2493     | 16                   | 0.1                       | 5                  |                    | POWER MOLD    | 2SK2493             | A    | Toshiba |
| 2SK2507     | 50                   | 0.046                     | 25                 |                    | TO-220IS      | 2SK2507             | A    | Toshiba |
| 2SK2508     | 250                  | 0.25                      | 13                 |                    | TO-220IS      | 2SK2508             | A    | Toshiba |
| 2SK2542     | 500                  | 0.85                      | 8                  |                    | TO-220AB      | 2SK2542             | A    | Toshiba |
| 2SK2543     | 500                  | 0.85                      | 8                  |                    | TO-220IS      | 2SK2543             | A    | Toshiba |
| 2SK2544     | 600                  | 1.25                      | 6                  |                    | TO-220AB      | 2SK2544             | A    | Toshiba |
| 2SK2545     | 600                  | 1.25                      | 6                  |                    | TO-220IS      | 2SK2545             | A    | Toshiba |
| 2SK2549     | 16                   | 0.29                      | 2                  |                    | POWER-MINI    | 2SK2549             | A    | Toshiba |
| 2SK2550     | 50                   | 0.03                      | 45                 |                    | TO-3P(N)      | 2SK2550             | A    | Toshiba |
| 2SK2551     | 50                   | 0.011                     | 50                 |                    | TO-3P(N)      | 2SK2551             | A    | Toshiba |
| 2SK2556     | 30                   | 0.04                      | 6                  |                    | SOP-8(Single) | TPC8006-H           | A    | Sanyo   |
| 2SK2557     | 30                   | 0.037                     | 7                  |                    | SOP-8(Single) | TPC8006-H           | A    | Sanyo   |
| 2SK2598     | 250                  | 0.25                      | 13                 |                    | TO-220FL/SM   | 2SK2598             | A    | Toshiba |
| 2SK2599     | 500                  | 3                         | 2                  |                    | TPS           | 2SK2599             | A    | Toshiba |
| 2SK2600     | 500                  | 0.85                      | 8                  |                    | TO-3P(N)IS    | 2SK2600             | A    | Toshiba |
| 2SK2601     | 500                  | 1                         | 10                 |                    | TO-3P(N)      | 2SK2601             | A    | Toshiba |
| 2SK2602     | 600                  | 1.25                      | 6                  |                    | TO-3P(N)      | 2SK2602             | A    | Toshiba |
| 2SK2603     | 800                  | 3.6                       | 3                  |                    | TO-220AB      | 2SK2603             | A    | Toshiba |
| 2SK2604     | 800                  | 2.2                       | 5                  |                    | TO-3P(N)      | 2SK2604             | A    | Toshiba |
| 2SK2605     | 800                  | 2.2                       | 5                  |                    | TO-220IS      | 2SK2605             | A    | Toshiba |
| 2SK2606     | 800                  | 1.2                       | 8.5                |                    | TO-3P(N)IS    | 2SK2606             | A    | Toshiba |
| 2SK2607     | 800                  | 1.2                       | 9                  |                    | TO-3P(N)      | 2SK2607             | A    | Toshiba |
| 2SK2608     | 900                  | 4.3                       | 3                  |                    | TO-220AB      | 2SK2608             | A    | Toshiba |
| 2SK2610     | 900                  | 2.5                       | 5                  |                    | TO-3P(N)      | 2SK2610             | A    | Toshiba |
| 2SK2611     | 900                  | 1.4                       | 9                  |                    | TO-3P(N)      | 2SK2611             | A    | Toshiba |
| 2SK2613     | 1000                 | 1.7                       | 8                  |                    | TO-3P(N)      | 2SK2613             | A    | Toshiba |
| 2SK2614     | 50                   | 0.046                     | 20                 |                    | DP            | 2SK2614             | A    | Toshiba |
| 2SK2615     | 60                   | 0.37                      | 2                  |                    | POWER-MINI    | 2SK2615             | A    | Toshiba |
| 2SK2637     | 20                   | 0.025                     | 8                  |                    | SOP-8(Single) | TPC8008             | A    | Sanyo   |
| 2SK2661     | 500                  | 1.5                       | 5                  |                    | TO-220AB      | 2SK2661             | A    | Toshiba |
| 2SK2662     | 500                  | 1.5                       | 5                  |                    | TO-220IS      | 2SK2662             | A    | Toshiba |
| 2SK2679     | 400                  | 1.2                       | 5.5                |                    | TO-220IS      | 2SK2679             | A    | Toshiba |
| 2SK2698     | 500                  | 0.4                       | 15                 |                    | TO-3P(N)      | 2SK2698             | A    | Toshiba |

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**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|---------|
| 2SK2699     | 600                  | 0.65                      | 12                 |                    | TO-3P(N)      | 2SK2699             | A    | Toshiba |
| 2SK2700     | 900                  | 4.3                       | 3                  |                    | TO-220IS      | 2SK2700             | A    | Toshiba |
| 2SK2717     | 900                  | 2.5                       | 5                  |                    | TO-220IS      | 2SK2717             | A    | Toshiba |
| 2SK2718     | 900                  | 6.4                       | 2.5                |                    | TO-220IS      | 2SK2718             | A    | Toshiba |
| 2SK2719     | 900                  | 4.3                       | 3                  |                    | TO-3P(N)      | 2SK2719             | A    | Toshiba |
| 2SK2733     | 900                  | 9                         | 1                  |                    | TO-220AB      | 2SK2733             | A    | Toshiba |
| 2SK2741     | 60                   | 0.16                      | 5                  |                    | SP            | 2SK2741             | A    | Toshiba |
| 2SK2742     | 100                  | 0.35                      | 3                  |                    | SP            | 2SK2742             | A    | Toshiba |
| 2SK2744     | 50                   | 0.02                      | 45                 |                    | TO-3P(N)      | 2SK2744             | A    | Toshiba |
| 2SK2745     | 50                   | 0.0095                    | 50                 |                    | TO-3P(N)      | 2SK2745             | A    | Toshiba |
| 2SK2746     | 800                  | 1.7                       | 7                  |                    | TO-3P(N)      | 2SK2746             | A    | Toshiba |
| 2SK2749     | 900                  | 2                         | 7                  |                    | TO-3P(N)      | 2SK2749             | A    | Toshiba |
| 2SK2750     | 600                  | 2.2                       | 3.5                |                    | TO-220IS      | 2SK2750             | A    | Toshiba |
| 2SK2776     | 500                  | 0.85                      | 8                  |                    | TO-220FL/SM   | 2SK2776             | A    | Toshiba |
| 2SK2777     | 600                  | 1.25                      | 6                  |                    | TO-220FL/SM   | 2SK2777             | A    | Toshiba |
| 2SK2782     | 60                   | 0.055                     | 20                 |                    | DP            | 2SK2782             | A    | Toshiba |
| 2SK2789     | 100                  | 0.085                     | 27                 |                    | TO-220FL/SM   | 2SK2789             | A    | Toshiba |
| 2SK2835     | 200                  | 0.8                       | 5                  |                    | TPS           | 2SK2835             | A    | Toshiba |
| 2SK2836     | 600                  | 9                         | 1                  |                    | SP            | 2SK2836             | A    | Toshiba |
| 2SK2837     | 500                  | 0.27                      | 20                 |                    | TO-3P(N)      | 2SK2837             | A    | Toshiba |
| 2SK2838     | 400                  | 1.2                       | 5.5                |                    | TO-220FL/SM   | 2SK2838             | A    | Toshiba |
| 2SK2839     | 30                   | 0.04                      | 10                 |                    | SP            | 2SK2839             | A    | Toshiba |
| 2SK2840     | 250                  | 1                         | 4.5                |                    | TO-220IS      | 2SK2840             | A    | Toshiba |
| 2SK2841     | 400                  | 0.55                      | 10                 |                    | TO-220AB      | 2SK2841             | A    | Toshiba |
| 2SK2842     | 500                  | 0.52                      | 12                 |                    | TO-220IS      | 2SK2842             | A    | Toshiba |
| 2SK2843     | 600                  | 0.75                      | 10                 |                    | TO-220IS      | 2SK2843             | A    | Toshiba |
| 2SK2844     | 30                   | 0.02                      | 35                 |                    | TO-220AB      | 2SK2844             | A    | Toshiba |
| 2SK2845     | 900                  | 9                         | 1                  |                    | DP            | 2SK2845             | A    | Toshiba |
| 2SK2846     | 600                  | 5                         | 2                  |                    | TPS           | 2SK2846             | A    | Toshiba |
| 2SK2847     | 900                  | 1.4                       | 8                  |                    | TO-3P(N)IS    | 2SK2847             | A    | Toshiba |
| 2SK2859     | 100                  | 0.4                       | 2                  |                    | SOP-8(Single) |                     |      | Sanyo   |
| 2SK2862     | 500                  | 3                         | 2                  |                    | TO-220IS      | 2SK2862             | A    | Toshiba |
| 2SK2865     | 600                  | 5                         | 2                  |                    | POWER MOLD    | 2SK2865             | A    | Toshiba |
| 2SK2866     | 600                  | 0.75                      | 10                 |                    | TO-220AB      | 2SK2866             | A    | Toshiba |
| 2SK2882     | 150                  | 0.12                      | 18                 |                    | TO-220IS      | 2SK2882             | A    | Toshiba |
| 2SK2883     | 800                  | 3.6                       | 3                  |                    | TO-220FL/SM   | 2SK2883             | A    | Toshiba |
| 2SK2884     | 800                  | 2.2                       | 5                  |                    | TO-220FL/SM   | 2SK2884             | A    | Toshiba |
| 2SK2886     | 50                   | 0.02                      | 45                 |                    | TO-220IS      | 2SK2886             | A    | Toshiba |
| 2SK2889     | 600                  | 0.75                      | 10                 |                    | TO-220FL/SM   | 2SK2889             | A    | Toshiba |
| 2SK2914     | 250                  | 0.5                       | 8.5                |                    | TO-220AB      | 2SK2914             | A    | Toshiba |
| 2SK2915     | 600                  | 0.4                       | 16                 |                    | TO-3P(N)      | 2SK2915             | A    | Toshiba |
| 2SK2916     | 500                  | 0.4                       | 14                 |                    | TO-3P(N)IS    | 2SK2916             | A    | Toshiba |
| 2SK2917     | 500                  | 0.27                      | 18                 |                    | TO-3P(N)IS    | 2SK2917             | A    | Toshiba |
| 2SK2920     | 200                  | 0.8                       | 5                  |                    | POWER MOLD    | 2SK2920             | A    | Toshiba |
| 2SK2949     | 400                  | 0.55                      | 10                 |                    | TO-220FL/SM   | 2SK2949             | A    | Toshiba |
| 2SK2952     | 400                  | 0.55                      | 8.5                |                    | TO-220IS      | 2SK2952             | A    | Toshiba |
| 2SK2953     | 600                  | 0.4                       | 15                 |                    | TO-3P(N)IS    | 2SK2953             | A    | Toshiba |
| 2SK2961     | 60                   | 0.27                      | 2                  |                    | TO-92MOD      | 2SK2961             | A    | Toshiba |
| 2SK2962     | 100                  | 0.7                       | 1                  |                    | TO-92MOD      | 2SK2962             | A    | Toshiba |
| 2SK2963     | 100                  | 0.7                       | 1                  |                    | POWER-MINI    | 2SK2963             | A    | Toshiba |

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# Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|-----------|
| 2SK2964     | 30                   | 0.17                      | 2                  |                    | POWER-MINI    | 2SK2964             | A    | Toshiba   |
| 2SK2965     | 200                  | 0.26                      | 11                 |                    | TO-220IS      | 2SK2965             | A    | Toshiba   |
| 2SK2966     | 250                  | 0.32                      | 10                 |                    | TO-220IS      | 2SK2966             | A    | Toshiba   |
| 2SK2967     | 250                  | 0.07                      | 30                 |                    | TO-3P(N)      | 2SK2967             | A    | Toshiba   |
| 2SK2968     | 900                  | 1.25                      | 10                 |                    | TO-3P(N)      | 2SK2968             | A    | Toshiba   |
| 2SK2985     | 60                   | 0.0058                    | 45                 |                    | TO-220IS      | 2SK2985             | A    | Toshiba   |
| 2SK2986     | 60                   | 0.0058                    | 45                 |                    | TO-220FL/SM   | 2SK2986             | A    | Toshiba   |
| 2SK2987     | 60                   | 0.0058                    | 70                 |                    | TO-3P(N)      | 2SK2987             | A    | Toshiba   |
| 2SK2989     | 50                   | 0.15                      | 5                  |                    | TO-92MOD      | 2SK2989             | A    | Toshiba   |
| 2SK2991     | 500                  | 1.5                       | 5                  |                    | TO-220FL/SM   | 2SK2991             | A    | Toshiba   |
| 2SK2992     | 200                  | 3.5                       | 1                  |                    | POWER-MINI    | 2SK2992             | A    | Toshiba   |
| 2SK2993     | 250                  | 0.11                      | 20                 |                    | TO-220FL/SM   | 2SK2993             | A    | Toshiba   |
| 2SK2995     | 250                  | 0.07                      | 30                 |                    | TO-3P(N)IS    | 2SK2995             | A    | Toshiba   |
| 2SK2996     | 600                  | 1                         | 10                 |                    | TO-220IS      | 2SK2996             | A    | Toshiba   |
| 2SK2997     | 800                  | 8                         | 1.5                |                    | DP            | 2SK2997             | A    | Toshiba   |
| 2SK2998     | 500                  | 18                        | 0.5                |                    | TO-92MOD      | 2SK2998             | A    | Toshiba   |
| 2SK3017     | 900                  | 1.25                      | 8                  |                    | TO-3P(N)IS    | 2SK3017             | A    | Toshiba   |
| 2SK3051     | 60                   | 0.03                      | 45                 |                    | TO-220FL/SM   | 2SK2266             | A    | Toshiba   |
| 2SK3067     | 600                  | 5                         | 2                  |                    | TO-220IS      | 2SK3067             | A    | Toshiba   |
| 2SK3068     | 500                  | 0.52                      | 12                 |                    | TO-220FL/SM   | 2SK3068             | A    | Toshiba   |
| 2SK3085     | 600                  | 2.2                       | 3.5                |                    | TO-220AB      | 2SK3085             | A    | Toshiba   |
| 2SK3088     | 900                  | 4.3                       | 3                  |                    | TO-220FL/SM   | 2SK3088             | A    | Toshiba   |
| 2SK3089     | 30                   | 0.03                      | 40                 |                    | TO-220FL/SM   | 2SK3089             | A    | Toshiba   |
| 2SK3090     | 30                   | 0.02                      | 45                 |                    | TO-220FL/SM   | 2SK3090             | A    | Toshiba   |
| 2SK3117     | 500                  | 0.27                      | 20                 |                    | TO-3P(SM)     | 2SK3117             | A    | Toshiba   |
| 2SK3125     | 30                   | 0.007                     | 60                 |                    | TO-3P(SM)     | 2SK3125             | A    | Toshiba   |
| 2SK3126     | 450                  | 0.65                      | 10                 |                    | TO-220IS      | 2SK3126             | A    | Toshiba   |
| 2SK3127     | 30                   | 0.011                     | 45                 |                    | TO-220FL/SM   | 2SK3127             | A    | Toshiba   |
| 2SK3128     | 30                   | 0.011                     | 60                 |                    | TO-3P(N)      | 2SK3128             | A    | Toshiba   |
| 2SK3176     | 200                  | 0.052                     | 30                 |                    | TO-3P(N)      | 2SK3176             | A    | Toshiba   |
| BS107       | 200                  | 26                        | 0.13               |                    | TO-92         |                     |      | Siemens   |
| BS170       | 60                   | 5                         | 0.5                | 0.83               | TO-92         |                     |      | Fairchild |
| BS170       | 60                   | 5                         | 0.3                |                    | TO-92         |                     |      | Siemens   |
| BS270       | 60                   | 2                         | 0.4                | 0.625              | TO-92         |                     |      | Fairchild |
| BSO307N     | 30                   | 0.075                     | 4.2                |                    | SOP-8(Single) | TPC8004             | A    | Siemens   |
| BSO615N     | 60                   | 0.15                      | 2.6                |                    | SOP-8(Single) |                     |      | Siemens   |
| BSO615NV    | 60                   | 0.12                      | 3.1                |                    | SOP-8(Single) |                     |      | Siemens   |
| BSP123      | 100                  | 6.00                      | 0.38               | 1.7                | SOT223        |                     |      | Siemens   |
| BSP125      | 600                  | 45.00                     | 0.11               | 1.5                | SOT223        | 2SK2836             | A    | Siemens   |
| BSP129      | 240                  | 20.00                     | 0.19               | 1.5                | SOT223        | 2SK2836             | A    | Siemens   |
| BSP135      | 600                  | 60.00                     | 0.1                | 1.5                | SOT223        | 2SK2836             | A    | Siemens   |
| BSP149      | 200                  | 3.50                      | 0.44               | 1.5                | SOT223        |                     |      | Siemens   |
| BSP17       | 50                   | 0.10                      | 2.9                | 1.5                | SOT223        | 2SK2741             | A    | Siemens   |
| BSP170      | -60                  | 0.35                      | 1.7                |                    | SOT-223       | 2SJ482              | A    | Siemens   |
| BSP171      | -60                  | 0.35                      | 1.7                | 1.5                | SOT223        | 2SJ482              | A    | Siemens   |
| BSP295      | 50                   | 0.30                      | 1.7                | 1.5                | SOT223        | 2SK2741             | A    | Siemens   |
| BSP296      | 100                  | 0.80                      | 1                  | 1.5                | SOT223        | 2SK2742             | A    | Siemens   |
| BSP297      | 200                  | 2.00                      | 0.6                | 1.5                | SOT223        |                     |      | Siemens   |
| BSP298      | 400                  | 3.00                      | 0.45               | 1.5                | SOT223        |                     |      | Siemens   |
| BSP299      | 500                  | 4.00                      | 0.4                | 1.5                | SOT223        |                     |      | Siemens   |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|-----------|
| BSP300      | 800                  | 20                        | 0.19               |                    | SOT-223  |                     |      | Siemens   |
| BSP315      | -50                  | 0.80                      | 1                  | 1.5                | SOT223   |                     |      | Siemens   |
| BSP316      | -100                 | 2.20                      | 0.6                | 1.5                | SOT223   | 2SJ508              | B    | Siemens   |
| BSP317      | -200                 | 6.00                      | 0.34               | 1.5                | SOT223   |                     |      | Siemens   |
| BSP318      | 60                   | 0.15                      | 2.4                | 1.5                | SOT223   | 2SK2741             | A    | Siemens   |
| BSP318S     | 60                   | 0.15                      | 2.6                |                    | SOT-223  | 2SK2741             | A    | Siemens   |
| BSP319      | 50                   | 0.07                      | 3.8                | 1.5                | SOT223   | 2SK2741             | A    | Siemens   |
| BSP320S     | 60                   | 0.12                      | 2.9                |                    | SOT-223  | 2SK2741             | A    | Siemens   |
| BSP324      | 400                  | 25.00                     | 0.16               | 1.5                | SOT223   | 2SK2836             | A    | Siemens   |
| BSP372      | 100                  | 0.30                      | 1.7                | 1.8                | SOT223   | 2SK2742             | A    | Siemens   |
| BSP373      | 100                  | 0.30                      | 1.7                | 1.8                | SOT223   | 2SK2742             | A    | Siemens   |
| BSP88       | 240                  | 8                         | 0.32               |                    | SOT-223  | 2SK2836             | A    | Siemens   |
| BSP89       | 240                  | 6                         | 0.36               |                    | SOT-223  | 2SK2836             | A    | Siemens   |
| BSP92       | -240                 | 20                        | 0.2                |                    | SOT-223  |                     |      | Siemens   |
| BSS100      | 100                  | 6                         | 0.22               | 0.63               | TO-92    |                     |      | Fairchild |
| BSS100      | 100                  | 6                         | 0.22               |                    | TO-92    |                     |      | Siemens   |
| BSS101      | 240                  | 16                        | 0.13               |                    | TO-92    |                     |      | Siemens   |
| BSS110      | -50                  | 10                        | -0.17              | 0.63               | TO-92    |                     |      | Fairchild |
| BSS110      | -50                  | 10                        | 0.1                |                    | TO-92    |                     |      | Siemens   |
| BSS119      | 100                  | 6                         | 0.17               |                    | SOT-23   |                     |      | Siemens   |
| BSS123      | 100                  | 6                         | 0.17               | 0.36               | SOT-23   |                     |      | Fairchild |
| BSS123      | 100                  | 6                         | 0.17               |                    | SOT-23   |                     |      | Siemens   |
| BSS124      | 400                  | 28                        | 0.12               |                    | TO-92    |                     |      | Siemens   |
| BSS125      | 600                  | 45                        | 0.1                |                    | TO-92    |                     |      | Siemens   |
| BSS129      | 240                  | 20                        | 0.15               |                    | TO-92    |                     |      | Siemens   |
| BSS131      | 240                  | 16                        | 0.1                |                    | SOT-23   |                     |      | Siemens   |
| BSS135      | 600                  | 60                        | 0.08               |                    | TO-92    |                     |      | Siemens   |
| BSS138      | 50                   | 3.5                       | 0.22               | 0.36               | SOT-23   |                     |      | Fairchild |
| BSS138      | 50                   | 3.5                       | 0.22               |                    | SOT-23   |                     |      | Siemens   |
| BSS139      | 250                  | 100                       | 0.04               |                    | SOT-23   |                     |      | Siemens   |
| BSS145      | 65                   | 3.5                       | 0.22               |                    | SOT-23   |                     |      | Siemens   |
| BSS149      | 200                  | 3.5                       | 0.35               |                    | TO-92    |                     |      | Siemens   |
| BSS159      | 50                   | 8                         | 0.16               |                    | SOT-23   |                     |      | Siemens   |
| BSS169      | 100                  | 12                        | 0.12               |                    | SOT-23   |                     |      | Siemens   |
| BSS192      | -240                 | 20.00                     | 0.15               | 1                  | SOT89    |                     |      | Siemens   |
| BSS229      | 250                  | 100                       | 0.07               |                    | TO-92    |                     |      | Siemens   |
| BSS284      | -50                  | 10                        | 0.13               |                    | SOT-23   |                     |      | Siemens   |
| BSS295      | 50                   | 0.3                       | 1.4                |                    | TO-92    |                     |      | Siemens   |
| BSS296      | 100                  | 0.8                       | 0.8                |                    | TO-92    |                     |      | Siemens   |
| BSS297      | 200                  | 2                         | 0.48               |                    | TO-92    |                     |      | Siemens   |
| BSS7728     | 60                   | 7.5                       | 0.15               |                    | SOT-23   |                     |      | Siemens   |
| BSS84       | -50                  | 10                        | -0.13              | 0.36               | SOT-23   |                     |      | Fairchild |
| BSS84       | -50                  | 10                        | 0.13               |                    | SOT-23   |                     |      | Siemens   |
| BSS87       | 240                  | 6.00                      | 0.29               | 1                  | SOT89    |                     |      | Siemens   |
| BSS92       | -240                 | 20                        | 0.1                |                    | TO-92    |                     |      | Siemens   |
| BSS98       | 50                   | 3.5                       | 0.3                |                    | TO-92    |                     |      | Siemens   |
| BUK444-200A | 200                  | 0.4                       | 5.3                | 25                 | TO-220IS | 2SK2350             | A    | Philips   |
| BUK444-200B | 200                  | 0.5                       | 4.7                | 25                 | TO-220IS | 2SK2350             | A    | Philips   |
| BUK444-800A | 800                  | 6                         | 1.4                | 30                 | TO-220IS | 2SK2603             | B    | Philips   |
| BUK444-800B | 800                  | 8                         | 1.2                | 30                 | TO-220IS | 2SK2997             | B    | Philips   |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|--------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| BUK445-200A  | 200                  | 0.23                      | 7.6                | 30                 | TO-220IS | 2SK2382             | A    | Philips |
| BUK445-200B  | 200                  | 0.28                      | 7                  | 30                 | TO-220IS | 2SK2965             | A    | Philips |
| BUK446-1000B | 1000                 | 5                         | 1.5                | 30                 | TO-220IS | 2SK1119             | B    | Philips |
| BUK446-800A  | 800                  | 3                         | 2                  | 30                 | TO-220IS | 2SK2603             | B    | Philips |
| BUK446-800B  | 800                  | 4                         | 1.7                | 30                 | TO-220IS | 2SK2603             | B    | Philips |
| BUK452-100A  | 100                  | 0.25                      | 11                 | 60                 | TO220AB  | 2SK2399             | B    | Philips |
| BUK452-100B  | 100                  | 0.3                       | 10                 | 60                 | TO220AB  |                     |      | Philips |
| BUK452-60A   | 60                   | 0.13                      | 15                 | 60                 | TO220AB  | 2SK2231             | B    | Philips |
| BUK452-60B   | 60                   | 0.15                      | 14                 | 60                 | TO220AB  | 2SK2231             | B    | Philips |
| BUK453-100A  | 100                  | 0.16                      | 14                 | 75                 | TO220AB  | 2SK2314             | A    | Philips |
| BUK453-100B  | 100                  | 0.2                       | 13                 | 75                 | TO220AB  | 2SK2399             | B    | Philips |
| BUK453-60A   | 60                   | 0.08                      | 22                 | 75                 | TO220AB  | 2SK2232             | B    | Philips |
| BUK453-60B   | 60                   | 0.1                       | 20                 | 75                 | TO220AB  | 2SK2232             | B    | Philips |
| BUK454-200A  | 200                  | 0.4                       | 9.2                | 90                 | TO220AB  | YTA630              | A    | Philips |
| BUK454-200B  | 200                  | 0.5                       | 8.2                | 90                 | TO220AB  | YTA630              | A    | Philips |
| BUK454-60H   | 60                   | 0.038                     | 41                 | 125                | TO220AB  | 2SK2385             | B    | Philips |
| BUK454-800A  | 800                  | 6                         | 2.4                | 100                | TO220AB  | 2SK2603             | A    | Philips |
| BUK454-800B  | 800                  | 8                         | 2                  | 100                | TO220AB  | 2SK2997             | B    | Philips |
| BUK455-100A  | 100                  | 0.08                      | 26                 | 125                | TO220AB  | 2SK2314             | A    | Philips |
| BUK455-100B  | 100                  | 0.1                       | 23                 | 125                | TO220AB  | 2SK2314             | A    | Philips |
| BUK455-200A  | 200                  | 0.23                      | 14                 | 125                | TO220AB  | YTA640              | A    | Philips |
| BUK455-200B  | 200                  | 0.28                      | 13                 | 125                | TO220AB  | 2SK2965             | B    | Philips |
| BUK455-60A   | 60                   | 0.038                     | 41                 | 125                | TO220AB  | 2SK2385             | B    | Philips |
| BUK455-60B   | 60                   | 0.045                     | 38                 | 125                | TO220AB  | 2SK2232             | B    | Philips |
| BUK455-60H   | 60                   | 0.03                      | 43                 | 125                | TO220AB  | 2SK2385             | B    | Philips |
| BUK456-1000B | 1000                 | 5                         | 3.1                | 125                | TO220AB  | 2SK1119             | A    | Philips |
| BUK456-100A  | 100                  | 0.057                     | 34                 | 150                | TO220AB  | 2SK2466             | B    | Philips |
| BUK456-100B  | 100                  | 0.065                     | 32                 | 150                | TO220AB  | 2SK2314             | A    | Philips |
| BUK456-200A  | 200                  | 0.16                      | 19                 | 150                | TO220AB  | YTA640              | A    | Philips |
| BUK456-200B  | 200                  | 0.2                       | 17                 | 150                | TO220AB  | YTA640              | A    | Philips |
| BUK456-60A   | 60                   | 0.028                     | 52                 | 150                | TO220AB  | 2SK2385             | B    | Philips |
| BUK456-60B   | 60                   | 0.03                      | 51                 | 150                | TO220AB  | 2SK2385             | B    | Philips |
| BUK456-60H   | 60                   | 0.02                      | 60                 | 150                | TO220AB  | 2SK2312             | B    | Philips |
| BUK456-800A  | 800                  | 3                         | 4                  | 125                | TO220AB  | 2SK2603             | A    | Philips |
| BUK456-800B  | 800                  | 4                         | 3.5                | 125                | TO220AB  | 2SK2603             | A    | Philips |
| BUK462-100A  | 100                  | 0.25                      | 11                 | 60                 | D2PAK    | 2SK2399             | B    | Philips |
| BUK462-60A   | 60                   | 0.13                      | 15                 | 60                 | D2PAK    | 2SK2231             | B    | Philips |
| BUK463-100A  | 100                  | 0.16                      | 14                 | 75                 | D2PAK    | 2SK2789             | A    | Philips |
| BUK463-60A   | 60                   | 0.08                      | 22                 | 75                 | D2PAK    | 2SK2311             | A    | Philips |
| BUK464-200A  | 200                  | 0.4                       | 9.2                | 90                 | D2PAK    | 2SK2401             | A    | Philips |
| BUK464-60H   | 60                   | 0.038                     | 41                 | 125                | D2PAK    | 2SK2266             | A    | Philips |
| BUK465-100A  | 100                  | 0.08                      | 26                 | 125                | D2PAK    | 2SK2789             | A    | Philips |
| BUK465-200A  | 200                  | 0.23                      | 14                 | 125                | D2PAK    | 2SK2401             | A    | Philips |
| BUK465-60A   | 60                   | 0.038                     | 41                 | 125                | D2PAK    | 2SK2266             | A    | Philips |
| BUK465-60H   | 60                   | 0.03                      | 43                 | 125                | D2PAK    | 2SK2266             | A    | Philips |
| BUK466-100A  | 100                  | 0.057                     | 34                 | 150                | D2PAK    | 2SK2466             | B    | Philips |
| BUK466-200A  | 200                  | 0.16                      | 19                 | 150                | D2PAK    | 2SK2401             | A    | Philips |
| BUK466-60A   | 60                   | 0.028                     | 52                 | 150                | D2PAK    | 2SK2266             | A    | Philips |
| BUK466-60H   | 60                   | 0.02                      | 60                 | 150                | D2PAK    | 2SK2376             | A    | Philips |
| BUK472-100A  | 100                  | 0.25                      | 6.6                | 22                 | TO-220IS | 2SK2399             | B    | Philips |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| BUK472-100B | 100                  | 0.3                       | 6.1                | 22                 | TO-220IS |                     |      | Philips |
| BUK472-60A  | 60                   | 0.13                      | 10                 | 22                 | TO-220IS | 2SK2231             | B    | Philips |
| BUK472-60B  | 60                   | 0.15                      | 9.2                | 22                 | TO-220IS | 2SK2231             | B    | Philips |
| BUK473-100A | 100                  | 0.16                      | 9                  | 25                 | TO-220IS | 2SK2391             | A    | Philips |
| BUK473-100B | 100                  | 0.2                       | 8                  | 25                 | TO-220IS | 2SK2399             | B    | Philips |
| BUK473-60A  | 60                   | 0.08                      | 13                 | 25                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK473-60B  | 60                   | 0.1                       | 12                 | 25                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK474-200A | 200                  | 0.4                       | 5.3                | 25                 | TO-220IS | 2SK2350             | A    | Philips |
| BUK474-200B | 200                  | 0.5                       | 4.7                | 25                 | TO-220IS | 2SK2350             | A    | Philips |
| BUK474-60H  | 60                   | 0.038                     | 21                 | 30                 | TO-220IS | 2SK2385             | A    | Philips |
| BUK475-100A | 100                  | 0.08                      | 14                 | 30                 | TO-220IS | 2SK2391             | A    | Philips |
| BUK475-100B | 100                  | 0.1                       | 12                 | 30                 | TO-220IS | 2SK2391             | A    | Philips |
| BUK475-200A | 200                  | 0.23                      | 7.6                | 30                 | TO-220IS | 2SK2382             | A    | Philips |
| BUK475-200B | 200                  | 0.28                      | 7                  | 30                 | TO-220IS | 2SK2965             | A    | Philips |
| BUK475-60A  | 60                   | 0.038                     | 21                 | 30                 | TO-220IS | 2SK2385             | A    | Philips |
| BUK475-60B  | 60                   | 0.045                     | 20                 | 30                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK475-60H  | 60                   | 0.03                      | 22.5               | 30                 | TO-220IS | 2SK2385             | A    | Philips |
| BUK481-100A | 100                  | 0.8                       | 1                  | 1.5                | SOT223   | 2SK2742             | A    | Philips |
| BUK481-60A  | 60                   | 0.35                      | 1.6                | 1.5                | SOT223   | 2SK2741             | A    | Philips |
| BUK482-100A | 100                  | 0.28                      | 1.8                | 1.8                | SOT223   | 2SK2742             | A    | Philips |
| BUK482-200A | 200                  | 0.9                       | 2                  | 8.3                | SOT223   |                     |      | Philips |
| BUK482-60A  | 60                   | 0.13                      | 2.5                | 1.7                | SOT223   | 2SK2741             | A    | Philips |
| BUK483-60A  | 60                   | 0.1                       | 3.2                | 1.8                | SOT223   |                     |      | Philips |
| BUK542-100A | 100                  | 0.28                      | 6.3                | 22                 | TO-220IS | 2SK2399             | B    | Philips |
| BUK542-100B | 100                  | 0.35                      | 5.6                | 22                 | TO-220IS |                     |      | Philips |
| BUK542-60A  | 60                   | 0.15                      | 9.2                | 22                 | TO-220IS | 2SK2231             | B    | Philips |
| BUK542-60B  | 60                   | 0.18                      | 8.4                | 22                 | TO-220IS | 2SK2231             | B    | Philips |
| BUK543-100A | 100                  | 0.18                      | 8.3                | 25                 | TO-220IS | 2SK2391             | A    | Philips |
| BUK543-100B | 100                  | 0.22                      | 7.5                | 25                 | TO-220IS | 2SK2399             | B    | Philips |
| BUK543-60A  | 60                   | 0.085                     | 13                 | 25                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK543-60B  | 60                   | 0.1                       | 12                 | 25                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK545-100A | 100                  | 0.085                     | 13                 | 30                 | TO-220IS | 2SK2391             | A    | Philips |
| BUK545-100B | 100                  | 0.11                      | 12                 | 30                 | TO-220IS | 2SK2391             | A    | Philips |
| BUK545-200A | 200                  | 0.23                      | 7.6                | 30                 | TO-220IS | 2SK2382             | A    | Philips |
| BUK545-200B | 200                  | 0.28                      | 7                  | 30                 | TO-220IS | 2SK2965             | A    | Philips |
| BUK545-60A  | 60                   | 0.042                     | 20                 | 30                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK545-60B  | 60                   | 0.055                     | 18                 | 30                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK545-60H  | 60                   | 0.038                     | 21                 | 30                 | TO-220IS | 2SK2385             | A    | Philips |
| BUK552-100A | 100                  | 0.28                      | 10                 | 60                 | TO220AB  | 2SK2399             | B    | Philips |
| BUK552-100B | 100                  | 0.35                      | 8.5                | 60                 | TO220AB  |                     |      | Philips |
| BUK552-60A  | 60                   | 0.15                      | 14                 | 60                 | TO220AB  | 2SK2231             | B    | Philips |
| BUK552-60B  | 60                   | 0.18                      | 13                 | 60                 | TO220AB  | 2SK2231             | B    | Philips |
| BUK553-100A | 100                  | 0.18                      | 13                 | 75                 | TO220AB  | 2SK2314             | A    | Philips |
| BUK553-100B | 100                  | 0.22                      | 12                 | 75                 | TO220AB  | 2SK2399             | B    | Philips |
| BUK553-48C  | 48                   | 0.085                     | 21                 | 75                 | TO220AB  |                     |      | Philips |
| BUK553-60A  | 60                   | 0.085                     | 21                 | 75                 | TO220AB  | 2SK2232             | B    | Philips |
| BUK553-60B  | 60                   | 0.1                       | 20                 | 75                 | TO220AB  | 2SK2232             | B    | Philips |
| BUK554-200A | 200                  | 0.4                       | 9.2                | 90                 | TO220AB  | YTA630              | A    | Philips |
| BUK554-200B | 200                  | 0.5                       | 8.2                | 90                 | TO220AB  | YTA630              | A    | Philips |
| BUK554-60H  | 60                   | 0.042                     | 39                 | 125                | TO220AB  | 2SK2232             | B    | Philips |



# Power MOSFETs Cross Reference

# Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| BUK555-100A | 100                  | 0.085                     | 25                 | 125                | TO220AB  | 2SK2314             | A    | Philips |
| BUK555-100B | 100                  | 0.11                      | 22                 | 125                | TO220AB  | 2SK2314             | A    | Philips |
| BUK555-200A | 200                  | 0.23                      | 14                 | 125                | TO220AB  | YTA640              | A    | Philips |
| BUK555-200B | 200                  | 0.28                      | 13                 | 125                | TO220AB  | 2SK2965             | B    | Philips |
| BUK555-60A  | 60                   | 0.042                     | 39                 | 125                | TO220AB  | 2SK2232             | B    | Philips |
| BUK555-60B  | 60                   | 0.055                     | 35                 | 125                | TO220AB  | 2SK2232             | B    | Philips |
| BUK555-60H  | 60                   | 0.038                     | 41                 | 125                | TO220AB  | 2SK2385             | B    | Philips |
| BUK556-60A  | 60                   | 0.026                     | 50                 | 150                | TO220AB  | 2SK2385             | B    | Philips |
| BUK556-60H  | 60                   | 0.022                     | 60                 | 150                | TO220AB  | 2SK2312             | B    | Philips |
| BUK562-100A | 100                  | 0.28                      | 10                 | 60                 | D2PAK    | 2SK2399             | B    | Philips |
| BUK-562A    | 60                   | 0.15                      | 14                 | 60                 | D2PAK    | 2SK2231             | B    | Philips |
| BUK563-100A | 100                  | 0.18                      | 13                 | 75                 | D2PAK    | 2SK2789             | A    | Philips |
| BUK563-48C  | 48                   | 0.085                     | 21                 | 75                 | D2PAK    |                     |      | Philips |
| BUK563-60A  | 60                   | 0.085                     | 21                 | 75                 | D2PAK    | 2SK2311             | A    | Philips |
| BUK564-200A | 200                  | 0.4                       | 9.2                | 90                 | D2PAK    | 2SK2401             | A    | Philips |
| BUK564-60H  | 60                   | 0.042                     | 39                 | 125                | D2PAK    | 2SK2311             | A    | Philips |
| BUK565-100A | 100                  | 0.085                     | 14                 | 30                 | D2PAK    | 2SK2789             | A    | Philips |
| BUK565-200A | 200                  | 0.23                      | 14                 | 125                | D2PAK    | 2SK2401             | A    | Philips |
| BUK565-60A  | 60                   | 0.042                     | 39                 | 125                | D2PAK    | 2SK2311             | A    | Philips |
| BUK565-60H  | 60                   | 0.038                     | 41                 | 125                | D2PAK    | 2SK2266             | A    | Philips |
| BUK566-60A  | 60                   | 0.026                     | 50                 | 150                | D2PAK    | 2SK2266             | A    | Philips |
| BUK566-60H  | 60                   | 0.022                     | 60                 | 150                | D2PAK    | 2SK2376             | A    | Philips |
| BUK573-48C  | 48                   | 0.085                     | 13                 | 50                 | TO-220IS |                     |      | Philips |
| BUK574-60H  | 60                   | 0.042                     | 20                 | 30                 | TO-220IS | 2SK2232             | A    | Philips |
| BUK581-100A | 100                  | 0.9                       | 0.9                | 1.5                | SOT223   |                     |      | Philips |
| BUK581-60A  | 60                   | 0.4                       | 1.5                | 1.5                | SOT223   | 2SK2741             | A    | Philips |
| BUK582-100A | 100                  | 0.31                      | 1.7                | 1.8                | SOT223   | 2SK2742             | A    | Philips |
| BUK582-60A  | 60                   | 0.15                      | 2.7                | 1.7                | SOT223   | 2SK2741             | A    | Philips |
| BUK583-60A  | 60                   | 0.1                       | 3.2                | 1.8                | SOT223   |                     |      | Philips |
| BUK7508-55  | 55                   | 0.008                     | 75                 | 187                | TO220AB  | 2SK2985             | B    | Philips |
| BUK7514-55  | 55                   | 0.014                     | 68                 | 142                | TO220AB  | 2SK2312             | B    | Philips |
| BUK7518-55  | 55                   | 0.018                     | 57                 | 125                | TO220AB  | 2SK2312             | B    | Philips |
| BUK7520-55  | 55                   | 0.02                      | 52                 | 115                | TO220AB  | 2SK2312             | B    | Philips |
| BUK7524-55  | 55                   | 0.024                     | 45                 | 103                | TO220AB  | 2SK2385             | B    | Philips |
| BUK7530-55  | 55                   | 0.03                      | 30                 | 75                 | TO220AB  | 2SK2385             | B    | Philips |
| BUK7540-55  | 55                   | 0.04                      | 10.7               | 8.3                | SOT223   |                     |      | Philips |
| BUK7570-55  | 55                   | 0.07                      | 19                 | 60                 | TO220AB  | 2SK2232             | B    | Philips |
| BUK7608-55  | 55                   | 0.008                     | 75                 | 187                | D2PAK    | 2SK2986             | A    | Philips |
| BUK7614-55  | 55                   | 0.014                     | 68                 | 142                | D2PAK    | 2SK2376             | A    | Philips |
| BUK7618-55  | 55                   | 0.018                     | 57                 | 125                | D2PAK    | 2SK2376             | A    | Philips |
| BUK7620-55  | 55                   | 0.02                      | 52                 | 115                | D2PAK    | 2SK2376             | A    | Philips |
| BUK7624-55  | 55                   | 0.024                     | 45                 | 103                | D2PAK    | 2SK2266             | A    | Philips |
| BUK7630-55  | 55                   | 0.03                      | 30                 | 75                 | D2PAK    | 2SK2266             | A    | Philips |
| BUK7670-55  | 55                   | 0.07                      | 19                 | 60                 | D2PAK    | 2SK2311             | A    | Philips |
| BUK78150-55 | 55                   | 0.15                      | 5.5                | 8.3                | SOT223   | 2SK2741             | A    | Philips |
| BUK7880-55  | 55                   | 0.08                      | 7.5                | 8.3                | SOT223   |                     |      | Philips |
| BUK9508-55  | 55                   | 0.008                     | 75                 | 187                | TO220AB  | 2SK2985             | B    | Philips |
| BUK9514-55  | 55                   | 0.014                     | 68                 | 142                | TO220AB  | 2SK2312             | B    | Philips |
| BUK9518-55  | 55                   | 0.018                     | 57                 | 125                | TO220AB  | 2SK2312             | B    | Philips |
| BUK9520-55  | 55                   | 0.02                      | 52                 | 115                | TO220AB  | 2SK2312             | B    | Philips |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| BUK9524-55  | 55                   | 0.024                     | 45                 | 103                | TO220AB  | 2SK2385             | B    | Philips |
| BUK9530-55  | 55                   | 0.03                      | 30                 | 75                 | TO220AB  | 2SK2385             | B    | Philips |
| BUK9570-55  | 55                   | 0.07                      | 19                 | 60                 | TO220AB  | 2SK2232             | B    | Philips |
| BUK9608-55  | 55                   | 0.008                     | 75                 | 187                | D2PAK    | 2SK2986             | A    | Philips |
| BUK9614-55  | 55                   | 0.014                     | 68                 | 142                | D2PAK    | 2SK2376             | A    | Philips |
| BUK9618-55  | 55                   | 0.018                     | 57                 | 125                | D2PAK    | 2SK2376             | A    | Philips |
| BUK9620-55  | 55                   | 0.02                      | 52                 | 115                | D2PAK    | 2SK2376             | A    | Philips |
| BUK9624-55  | 55                   | 0.024                     | 45                 | 103                | D2PAK    | 2SK2266             | A    | Philips |
| BUK9630-55  | 55                   | 0.03                      | 30                 | 75                 | D2PAK    | 2SK2266             | A    | Philips |
| BUK9670-55  | 55                   | 0.07                      | 19                 | 60                 | D2PAK    | 2SK2311             | A    | Philips |
| BUK98150-55 | 55                   | 0.15                      | 5.5                | 8.3                | SOT223   | 2SK2741             | A    | Philips |
| BUK9840-55  | 55                   | 0.04                      | 10.7               | 8.3                | SOT223   |                     |      | Philips |
| BUK9880-55  | 55                   | 0.08                      | 7.5                | 8.3                | SOT223   |                     |      | Philips |
| BUZ10       | 50                   | 0.07                      | 23                 | 75                 | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ100      | 50                   | 0.018                     | 58                 |                    | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ100L     | 50                   | 0.018                     | 60                 |                    | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ100S     | 55                   | 0.015                     | 77                 |                    | TO-220AB | 2SK2312             | B    | Siemens |
| BUZ100SL    | 55                   | 0.018                     | 70                 |                    | TO-220AB | 2SK2312             | B    | Siemens |
| BUZ101      | 50                   | 0.06                      | 25                 | 100                | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ101L     | 50                   | 0.06                      | 29                 |                    | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ101S     | 55                   | 0.06                      | 23                 |                    | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ101SL    | 55                   | 0.07                      | 21                 |                    | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ102      | 50                   | 0.023                     | 42                 | 180                | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ102AL    | 50                   | 0.028                     | 42                 |                    | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ102S     | 55                   | 0.023                     | 52                 |                    | TO-220AB | 2SK2312             | B    | Siemens |
| BUZ102SL    | 55                   | 0.028                     | 47                 |                    | TO-220AB | 2SK2385             | B    | Siemens |
| BUZ103      | 50                   | 0.04                      | 40                 | 120                | TO-220AB | 2SK2385             | B    | Siemens |
| BUZ103AL    | 50                   | 0.05                      | 35                 |                    | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ103S     | 55                   | 0.04                      | 31                 |                    | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ103SL    | 55                   | 0.05                      | 28                 |                    | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ104      | 50                   | 0.1                       | 17.5               | 60                 | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ104L     | 50                   | 0.1                       | 17.5               |                    | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ104S     | 55                   | 0.1                       | 14                 |                    | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ104SL    | 55                   | 0.12                      | 12.8               |                    | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ10L      | 50                   | 0.07                      | 23                 | 75                 | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ10S2     | 60                   | 0.07                      | 23                 | 75                 | TO-220AB | 2SK2232             | B    | Siemens |
| BUZ11       | 50                   | 0.04                      | 30                 | 75                 | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ110S     | 55                   | 0.012                     | 80                 |                    | TO-220AB |                     |      | Siemens |
| BUZ110SL    | 55                   | 0.015                     | 80                 |                    | TO-220AB | 2SK2312             | B    | Siemens |
| BUZ111S     | 55                   | 0.008                     | 80                 |                    | TO-220AB | 2SK2985             | B    | Siemens |
| BUZ111SL    | 55                   | 0.01                      | 80                 |                    | TO-220AB |                     |      | Siemens |
| BUZ11A      | 50                   | 0.055                     | 26                 | 75                 | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ11AL     | 50                   | 0.055                     | 26                 | 75                 | TO-220AB | 2SK2507             | B    | Siemens |
| BUZ11FI     | 50                   | 0.04                      | 21                 | 40                 | TO-220IS | 2SK2385             | A    | ST      |
| BUZ11S2     | 60                   | 0.04                      | 30                 | 75                 | TO-220AB | 2SK2385             | B    | Siemens |
| BUZ12       | 50                   | 0.028                     | 42                 | 125                | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ12A      | 50                   | 0.035                     | 42                 | 125                | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ12AL     | 50                   | 0.035                     | 42                 | 125                | TO-220AB | 2SK2886             | B    | Siemens |
| BUZ171      | -50                  | 0.3                       | -8                 | 40                 | TO-220AB | 2SJ438              | B    | Siemens |
| BUZ172      | -100                 | 0.6                       | -5.5               | 40                 | TO-220AB |                     |      | Siemens |

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**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| BUZ173      | -200                 | 1.5                       | -3                 | 40                 | TO-220AB | 2SJ407              | B    | Siemens |
| BUZ20       | 100                  | 0.2                       | 13.5               | 75                 | TO-220AB | 2SK2399             | B    | Siemens |
| BUZ205      | 400                  | 1                         | 6                  | 75                 | TO-220AB | 2SK2679             | B    | Siemens |
| BUZ21       | 100                  | 0.085                     | 21                 | 75                 | TO-220AB | 2SK2314             | A    | Siemens |
| BUZ215      | 500                  | 1.5                       | 5.1                | 75                 | TO-220AB | 2SK2661             | A    | Siemens |
| BUZ21L      | 100                  | 0.085                     | 21                 | 75                 | TO-220AB | 2SK2314             | A    | Siemens |
| BUZ22       | 100                  | 0.055                     | 34                 | 125                | TO-220AB | 2SK2466             | B    | Siemens |
| BUZ255      | 250                  | 0.24                      | 13                 | 95                 | TO-220AB | 2SK2508             | B    | Siemens |
| BUZ271      | -50                  | 0.15                      | -22                | 40                 | TO-220AB | 2SJ464              | B    | Siemens |
| BUZ272      | -100                 | 0.3                       | -15                | 40                 | TO-220AB | 2SJ380              | B    | Siemens |
| BUZ305      | 800                  | 1                         | 7.5                | 150                | TO-218   | 2SK2607             | A    | Siemens |
| BUZ307      | 800                  | 3                         | 3                  | 75                 | TO-218   | 2SK2603             | B    | Siemens |
| BUZ308      | 800                  | 4                         | 2.6                | 75                 | TO-218   | 2SK2603             | B    | Siemens |
| BUZ30A      | 200                  | 0.13                      | 21                 | 125                | TO-220AB | YTA640              | A    | Siemens |
| BUZ31       | 200                  | 0.2                       | 13.5               | 75                 | TO-220AB | YTA640              | A    | Siemens |
| BUZ310      | 1000                 | 5                         | 2.5                | 75                 | TO-218   | 2SK1359             | A    | Siemens |
| BUZ311      | 1000                 | 6                         | 2.3                | 75                 | TO-218   | 2SK1359             | A    | Siemens |
| BUZ312      | 1000                 | 1.5                       | 6                  | 150                | TO-218   | 2SK2613             | A    | Siemens |
| BUZ31L      | 200                  | 0.2                       | 13.5               | 75                 | TO-220AB | YTA640              | A    | Siemens |
| BUZ32       | 200                  | 0.4                       | 9.5                | 75                 | TO-220AB | YTA630              | A    | Siemens |
| BUZ323      | 400                  | 0.3                       | 15                 | 170                | TO-218   | 2SK2837             | A    | Siemens |
| BUZ325      | 400                  | 0.35                      | 12.5               | 125                | TO-218   | 2SK2698             | A    | Siemens |
| BUZ326      | 400                  | 0.5                       | 10.5               | 125                | TO-218   | 2SK2841             | B    | Siemens |
| BUZ330      | 500                  | 0.6                       | 9.5                | 125                | TO-218   | 2SK2842             | B    | Siemens |
| BUZ331      | 500                  | 0.8                       | 8                  | 125                | TO-218   | 2SK2601             | A    | Siemens |
| BUZ332      | 600                  | 0.8                       | 8.5                | 150                | TO-218   | 2SK2699             | A    | Siemens |
| BUZ332A     | 600                  | 0.9                       | 8                  | 150                | TO-218   | 2SK2699             | A    | Siemens |
| BUZ333      | 500                  | 0.4                       | 13.5               | 170                | TO-218   | 2SK2698             | A    | Siemens |
| BUZ334      | 600                  | 0.5                       | 12                 | 180                | TO-218   | 2SK2915             | A    | Siemens |
| BUZ338      | 500                  | 0.4                       | 13.5               |                    | TO-218   | 2SK2698             | A    | Siemens |
| BUZ339      | 500                  | 0.5                       | 11.5               | 170                | TO-218   | 2SK2698             | A    | Siemens |
| BUZ341      | 200                  | 0.07                      | 33                 | 170                | TO-218   | 2SK3176             | A    | Siemens |
| BUZ342      | 50                   | 0.01                      | 60                 | 400                | TO-218   | 2SK2551             | A    | Siemens |
| BUZ344      | 100                  | 0.035                     | 46                 | 170                | TO-218   | 2SK1381             | A    | Siemens |
| BUZ345      | 100                  | 0.045                     | 41                 | 150                | TO-218   | 2SK2466             | B    | Siemens |
| BUZ346      | 50                   | 0.018                     | 58                 | 125                | TO-218   | 2SK2744             | A    | Siemens |
| BUZ346S2    | 60                   | 0.018                     | 58                 | 170                | TO-218   | 2SK2173             | A    | Siemens |
| BUZ347      | 50                   | 0.03                      | 45                 | 125                | TO-218   | 2SK2550             | A    | Siemens |
| BUZ349      | 100                  | 0.06                      | 32                 | 125                | TO-218   | 2SK2466             | B    | Siemens |
| BUZ350      | 200                  | 0.12                      | 22                 | 125                | TO-218   | 2SK2382             | B    | Siemens |
| BUZ351      | 400                  | 0.4                       | 11.5               |                    | TO-218   | 2SK2698             | A    | Harris  |
| BUZ355      | 800                  | 1.5                       | 6                  | 125                | TO-218   | 2SK2746             | A    | Siemens |
| BUZ356      | 800                  | 2                         | 5                  | 125                | TO-218   | 2SK2604             | A    | Siemens |
| BUZ357      | 1000                 | 2                         | 5                  | 125                | TO-218   | 2SK1120             | A    | Siemens |
| BUZ358      | 1000                 | 2.6                       | 4.5                | 125                | TO-218   | 2SK1120             | A    | Siemens |
| BUZ380      | 1000                 | 2                         | 5.5                | 125                | TO-218   | 2SK1120             | A    | Siemens |
| BUZ382      | 400                  | 0.4                       | 12.5               | 125                | TO-218   | 2SK2698             | A    | Siemens |
| BUZ384      | 500                  | 0.6                       | 10.5               | 125                | TO-218   | 2SK2842             | B    | Siemens |
| BUZ385      | 500                  | 0.8                       | 9                  | 125                | TO-218   | 2SK2601             | A    | Siemens |
| BUZ40B      | 500                  | 0.8                       | 8                  | 150                | TO-220AB | 2SK2542             | A    | Siemens |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender     |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|------------|
| BUZ41A      | 500                  | 1.5                       | 4.5                | 75                 | TO-220AB      | 2SK2661             | A    | Siemens    |
| BUZ42       | 500                  | 2                         | 4                  | 75                 | TO-220AB      | 2SK2661             | A    | Siemens    |
| BUZ50A      | 1000                 | 5                         | 2.5                | 75                 | TO-220AB      | 2SK1119             | A    | Siemens    |
| BUZ50B      | 1000                 | 8                         | 2                  | 75                 | TO-220AB      | 2SK1119             | A    | Siemens    |
| BUZ50C      | 1000                 | 6                         | 2.3                | 75                 | TO-220AB      | 2SK1119             | A    | Siemens    |
| BUZ51       | 1000                 | 4                         | 3.4                | 125                | TO-220AB      | 2SK1119             | A    | Siemens    |
| BUZ60       | 400                  | 1                         | 5.5                | 75                 | TO-220AB      | 2SK2679             | B    | Siemens    |
| BUZ60B      | 400                  | 1.5                       | 4.5                |                    | TO-220AB      | 2SK2679             | B    | Harris     |
| BUZ61       | 400                  | 0.4                       | 12.5               | 150                | TO-220AB      | 2SK2841             | A    | Siemens    |
| BUZ61A      | 400                  | 0.5                       | 11                 | 150                | TO-220AB      | 2SK2841             | A    | Siemens    |
| BUZ70       | 60                   | 0.15                      | 12                 | 40                 | TO-220AB      | 2SK2231             | B    | Siemens    |
| BUZ70L      | 60                   | 0.15                      | 12                 | 40                 | TO-220AB      | 2SK2231             | B    | Siemens    |
| BUZ71       | 50                   | 0.1                       | 14                 | 40                 | TO-220AB      | 2SK2507             | B    | Siemens    |
| BUZ71A      | 50                   | 0.12                      | 13                 | 40                 | TO-220AB      | 2SK2507             | B    | Siemens    |
| BUZ71AFI    | 50                   | 0.12                      | 11                 | 35                 | TO-220IS      | 2SK2507             | A    | ST         |
| BUZ71AL     | 50                   | 0.12                      | 13                 | 40                 | TO-220AB      | 2SK2507             | B    | Siemens    |
| BUZ71FI     | 50                   | 0.1                       | 12                 | 35                 | TO-220IS      | 2SK2507             | A    | ST         |
| BUZ71L      | 50                   | 0.1                       | 14                 | 40                 | TO-220AB      | 2SK2507             | B    | Siemens    |
| BUZ71S2     | 60                   | 0.1                       | 14                 | 40                 | TO-220AB      | 2SK2232             | B    | Siemens    |
| BUZ72       | 100                  | 0.2                       | 10                 | 40                 | TO-220AB      | 2SK2399             | B    | Siemens    |
| BUZ72A      | 100                  | 0.25                      | 9                  | 40                 | TO-220AB      | 2SK2399             | B    | Siemens    |
| BUZ72A      | 100                  | 0.25                      | 11                 |                    | TO-220        | 2SK2399             | B    | ST         |
| BUZ72AL     | 100                  | 0.25                      | 9                  | 40                 | TO-220AB      | 2SK2399             | B    | Siemens    |
| BUZ72L      | 100                  | 0.2                       | 10                 | 40                 | TO-220AB      | 2SK2399             | B    | Siemens    |
| BUZ73       | 200                  | 0.4                       | 7                  | 40                 | TO-220AB      | YTA630              | A    | Siemens    |
| BUZ73A      | 200                  | 0.6                       | 5.8                | 40                 | TO-220AB      | YTA630              | A    | Siemens    |
| BUZ73AL     | 200                  | 0.6                       | 5.8                | 40                 | TO-220AB      | YTA630              | A    | Siemens    |
| BUZ73L      | 200                  | 0.4                       | 7                  | 40                 | TO-220AB      | YTA630              | A    | Siemens    |
| BUZ74       | 500                  | 3                         | 2.4                | 40                 | TO-220AB      | 2SK2862             | B    | Siemens    |
| BUZ74A      | 500                  | 4                         | 2.1                | 40                 | TO-220AB      | 2SK2862             | B    | Siemens    |
| BUZ76       | 400                  | 1.8                       | 3                  | 40                 | TO-220AB      | 2SK2679             | B    | Siemens    |
| BUZ76A      | 400                  | 2.5                       | 2.6                | 40                 | TO-220AB      | 2SK2862             | B    | Siemens    |
| BUZ77A      | 600                  | 4                         | 2.7                | 75                 | TO-220AB      | 2SK3067             | B    | Siemens    |
| BUZ77B      | 600                  | 3.5                       | 2.9                | 75                 | TO-220AB      | 2SK3085             | A    | Siemens    |
| BUZ78       | 800                  | 8                         | 1.5                | 40                 | TO-220AB      | 2SK2997             | B    | Siemens    |
| BUZ80       | 800                  | 4                         | 2.6                | 75                 | TO-220AB      | 2SK2603             | A    | Siemens    |
| BUZ80A      | 800                  | 3                         | 3                  | 75                 | TO-220AB      | 2SK2603             | A    | Siemens    |
| BUZ80AFI    | 800                  | 3                         | 2.4                | 40                 | TO-220IS      | 2SK2603             | B    | ST         |
| BUZ80FI     | 800                  | 4                         | 2.1                | 40                 | TO-220IS      | 2SK2603             | B    | ST         |
| BUZ81       | 800                  | 2.5                       | 4                  | 125                | TO-220AB      | 2SK2605             | B    | Siemens    |
| BUZ90       | 600                  | 1.6                       | 4.5                | 75                 | TO-220AB      | 2SK2544             | A    | Siemens    |
| BUZ90A      | 600                  | 2                         | 4                  | 75                 | TO-220AB      | 2SK3085             | A    | Siemens    |
| BUZ91       | 600                  | 0.8                       | 8.5                | 150                | TO-220AB      | 2SK2866             | A    | Siemens    |
| BUZ91A      | 600                  | 0.9                       | 8                  | 150                | TO-220AB      | 2SK2866             | A    | Siemens    |
| BUZ92       | 600                  | 3                         | 3.2                | 75                 | TO-220AB      | 2SK3085             | A    | Siemens    |
| BUZ93       | 600                  | 2.5                       | 3.6                | 75                 | TO-220AB      | 2SK2750             | B    | Siemens    |
| F10H3N*     | 30                   | 0.015                     | 10                 |                    | SOP-8(Single) | TPC8005-H           | A    | Shindengen |
| F2H3ND      | 30                   | 0.18                      | 2.5                |                    | SOP-8(Dual)   |                     |      | Shindengen |
| F3H3C       | 30/-30               | 0.18/0.2                  | 2.5/-2.5           |                    | SOP-8(P&N)    |                     |      | Shindengen |
| F3H3ND      | 30                   | 0.11                      | 3                  |                    | SOP-8(Dual)   | TPC8201             | A    | Shindengen |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package        | Toshiba Replacement | Note | Vender     |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------------|---------------------|------|------------|
| F3H3P       | -30                  | 0.2                       | -2.5               |                    | SOP-8(Single)  |                     |      | Shindengen |
| F3H3PD      | -30                  | 0.2                       | -2.5               |                    | SOP-8(Dual)    |                     |      | Shindengen |
| F4H3C       | 30/-30               | 0.07/0.15                 | 4/-3.5             |                    | SOP-8(P&N)     | TPC8401             | A    | Shindengen |
| F4H3N       | 30                   | 0.07                      | 4                  |                    | SOP-8(Single)  | TPC8004             | A    | Shindengen |
| F4H3ND      | 30                   | 0.07                      | 4                  |                    | SOP-8(Dual)    | TPC8201             | A    | Shindengen |
| F4H3P       | -30                  | 0.15                      | -3.5               |                    | SOP-8(Single)  |                     |      | Shindengen |
| F4H3PD      | -30                  | 0.15                      | -3.5               |                    | SOP-8(Dual)    | TPC8301             | A    | Shindengen |
| F5H2ND      | 20                   | 0.04                      | 5                  |                    | SOP-8(Dual)    | TPC8202             | A    | Shindengen |
| F5H3N       | 30                   | 0.05                      | 5                  |                    | SOP-8(Single)  | TPC8004             | A    | Shindengen |
| F5H3ND      | 30                   | 0.05                      | 5                  |                    | SOP-8(Dual)    | TPC8201             | A    | Shindengen |
| F5H3P       | -30                  | 0.09                      | -4.5               |                    | SOP-8(Single)  | TPC8104-H           | A    | Shindengen |
| F7H2N       | 20                   | 0.022                     | 7                  |                    | SOP-8(Single)  | TPC8008             | A    | Shindengen |
| F7H3P*      | -30                  | 0.05                      | -6.5               |                    | SOP-8(Single)  | TPC8105-H           | A    | Shindengen |
| F8H3N       | 30                   | 0.03                      | 8                  |                    | SOP-8(Single)  | TPC8006-H           | A    | Shindengen |
| F9H4N       | 40                   | 0.03                      | 9                  |                    | SOP-8(Single)  |                     |      | Shindengen |
| FA38SA50LC  | 500                  | 0.13                      | 38                 | 500                | SOT-227        |                     |      | IR         |
| FA57SA50LC  | 500                  | 0.08                      | 57                 | 625                | SOT-227        |                     |      | IR         |
| FDC6301N    | 25                   | 4                         | 0.22               | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC6302P    | -25                  | 10                        | -0.12              | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC6303N    | 25                   | 0.45                      | 0.68               | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC6304P    | -25                  | 1.1                       | -0.46              | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC6306P    | -20                  | 0.16                      | -1.9               | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC6320C    | 25/-25               | 4/10                      | 0.22/-0.12         | 0.9                | SSOT-6(P&N)    |                     |      | Fairchild  |
| FDC6321C    | 25/-25               | 0.045/1.1                 | 0.68/-0.46         | 0.9                | SSOT-6(P&N)    |                     |      | Fairchild  |
| FDC6322C    | 25/-25               | 4/1.1                     | 0.22/-0.46         | 0.9                | SSOT-6(P&N)    |                     |      | Fairchild  |
| FDC633N     | 30                   | 0.042                     | 5.2                | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC634P     | -20                  | 0.08                      | -3.5               | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC636P     | -20                  | 0.13                      | -2.8               | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC638P     | -20                  | 0.05                      | -4.5               | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC6506P    | -30                  | 0.165                     | -1.8               | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC653N     | 30                   | 0.035                     | 5                  | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC654P     | -30                  | 0.075                     | -3.6               | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC655AN    | 30                   | 0.027                     | 6.3                | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDC6561AN   | 30                   | 0.095                     | 2.5                | 0.9                | SSOT-6(Dual)   |                     |      | Fairchild  |
| FDC658P     | -30                  | 0.05                      | -4                 | 1.6                | SSOT-6(Single) |                     |      | Fairchild  |
| FDG6301N    | 25                   | 4                         | 0.22               | 0.3                | SC70-6(Dual)   |                     |      | Fairchild  |
| FDG6302P    | -25                  | 10                        | -0.14              | 0.3                | SC70-6(Dual)   |                     |      | Fairchild  |
| FDG6303N    | 25                   | 0.45                      | 0.5                | 0.3                | SC70-6(Dual)   |                     |      | Fairchild  |
| FDG6304P    | -25                  | 1.1                       | -0.41              | 0.3                | SC70-6(Dual)   |                     |      | Fairchild  |
| FDG6320C    | 25/-25               | 4/10                      | 0.22/-0.14         | 0.3                | SC70-6(P&N)    |                     |      | Fairchild  |
| FDG6321C    | 25/-25               | 0.45/1.10                 | 0.50/-0.41         | 0.3                | SC70-6(P&N)    |                     |      | Fairchild  |
| FDG6322C    | 25/-25               | 4/1.10                    | 0.22/-0.41         | 0.3                | SC70-6(P&N)    |                     |      | Fairchild  |
| FDN336P     | -20                  | 0.2                       | -1.3               | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN337N     | 30                   | 0.065                     | 2.2                | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN338P     | -20                  | 0.13                      | -1.6               | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN340P     | -20                  | 0.07                      | -2                 | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN357N     | 30                   | 0.06                      | 2.2                | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN358P     | -30                  | 0.125                     | -1.5               | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN359AN    | 30                   | 0.044                     | 2.7                | 0.5                | SOT-23         |                     |      | Fairchild  |
| FDN360P     | -30                  | 0.085                     | -2                 | 0.5                | SOT-23         |                     |      | Fairchild  |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package        | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------------|---------------------|------|-----------|
| FDP4030L    | 30                   | 0.035                     | 20                 | 37.5               | TO-220AB       | 2SK2844             | A    | Fairchild |
| FDP6030L    | 30                   | 0.0135                    | 52                 | 75                 | TO-220AB       | 2SK3127             | B    | Fairchild |
| FDP6035AL   | 30                   | 0.0125                    | 48                 | 58                 | TO-220AB       | 2SK3127             | B    | Fairchild |
| FDP6035L    | 30                   | 0.011                     | 58                 | 75                 | TO-220AB       | 2SK3127             | B    | Fairchild |
| FDP603AL    | 30                   | 0.022                     | 33                 | 50                 | TO-220AB       | 2SK2844             | A    | Fairchild |
| FDP6670AL   | 30                   | 0.0065                    | 80                 | 75                 | TO-220AB       |                     |      | Fairchild |
| FDP7030BL   | 30                   | 0.009                     | 60                 | 65                 | TO-220AB       | 2SK3127             | B    | Fairchild |
| FDP7030L    | 30                   | 0.007                     | 100                | 125                | TO-220AB       |                     |      | Fairchild |
| FDP8030L    | 30                   | 0.0035                    | 80                 | 187                | TO-220AB       |                     |      | Fairchild |
| FDPNDP6030  | 30                   | 0.018                     | 46                 | 75                 | TO-220AB       | 2SK2844             | A    | Fairchild |
| FDR4410     | 30                   | 0.013                     | 9.3                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR4420A    | 30                   | 0.009                     | 11                 | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR8308P    | -20                  | 0.05                      | -3.2               | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| FDR835N     | 30                   | 0.015                     | 8.7                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR836P     | -20                  | 0.03                      | -6.1               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR838P     | -20                  | 0.017                     | -8.1               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR8508P    | -30                  | 0.052                     | -3                 | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| FDR856P     | -30                  | 0.025                     | -6.3               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR858P     | -30                  | 0.019                     | -8                 | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDR9410A    | 30                   | 0.028                     | 5.8                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| FDS4435     | -30                  | 0.02                      | -9                 | 2.5                | SOP-8(Single)  | TPC8106-H           | A    | Fairchild |
| FDS4953     | -30                  | 0.053                     | -4.9               | 2                  | SOP-8(Dual)    | TPC8303             | A    | Fairchild |
| FDS6575     | -20                  | 0.013                     | -10                | 2.5                | SOP-8(Single)  | TPC8103             | A    | Fairchild |
| FDS6612A    | 30                   | 0.022                     | 8.4                |                    | SOP-8(Single)  | TPC8001             | A    | Fairchild |
| FDS6670A    | 30                   | 0.008                     | 13                 |                    | SOP-8(Single)  | TPC8007-H           | A    | Fairchild |
| FDS6675     | -30                  | 0.014                     | -11                | 2.5                | SOP-8(Single)  | TPC8103             | A    | Fairchild |
| FDS6680     | 30                   | 0.01                      | 11.5               |                    | SOP-8(Single)  | TPC8007-H           | A    | Fairchild |
| FDS6680A    | 30                   | 0.0095                    | 12.5               |                    | SOP-8(Single)  | TPC8007-H           | A    | Fairchild |
| FDS6690A    | 30                   | 0.0125                    | 11                 |                    | SOP-8(Single)  | TPC8005-H           | A    | Fairchild |
| FDS6875     | -20                  | 0.03                      | -6                 | 2                  | SOP-8(Dual)    |                     |      | Fairchild |
| FDS6912A    | 30                   | 0.028                     | 6                  | 2                  | SOP-8(Dual)    | TPC8203             | A    | Fairchild |
| FDS6930A    | 30                   | 0.042                     | 4.6                | 2                  | SOP-8(Dual)    | TPC8201             | A    | Fairchild |
| FDS6961A    | 30                   | 0.09                      | 3.5                | 2                  | SOP-8(Dual)    | TPC8201             | A    | Fairchild |
| FDS6975     | -30                  | 0.032                     | -6                 | 2                  | SOP-8(Dual)    | TPC8303             | A    | Fairchild |
| FDS6990A    | 30                   | 0.018                     | 7.5                | 2                  | SOP-8(Dual)    | TPC8203             | A    | Fairchild |
| FDS8926A    | 30                   | 0.03                      | 5.5                | 2                  | SOP-8(Dual)    | TPC8203             | A    | Fairchild |
| FDS8928A    | 30/-20               | 0.03/0.055                | 5.5/-4             | 2                  | SOP-8(P&N)     |                     |      | Fairchild |
| FDS8934A    | -20                  | 0.055                     | -4                 |                    | SOP-8(Dual)    |                     |      | Fairchild |
| FDS8936A    | 30                   | 0.028                     | 6                  |                    | SOP-8(Dual)    | TPC8203             | A    | Fairchild |
| FDS8936S    | 30                   | 0.04                      | 5                  |                    | SOP-8(Dual)    | TPC8201             | A    | Fairchild |
| FDS8947A    | -30                  | 0.052                     | -4                 | 2                  | SOP-8(Dual)    | TPC8303             | A    | Fairchild |
| FDS8958A    | 30/-30               | 0.028/0.052               | 7/-5               | 2                  | SOP-8(P&N)     | TPC8401             | A    | Fairchild |
| FDS9412     | 30                   | 0.022                     | 7.9                |                    | SOP-8(Single)  | TPC8001             | A    | Fairchild |
| FDS9435A    | -30                  | 0.045                     | -5.3               |                    | SOP-8(Single)  | TPC8105-H           | A    | Fairchild |
| FDS9933A    | -20                  | 0.075                     | -3.8               | 2                  | SOP-8(Dual)    |                     |      | Fairchild |
| FDS9936A    | 30                   | 0.04                      | 5.5                | 2                  | SOP-8(Dual)    | TPC8201             | A    | Fairchild |
| FDT457N     | 30                   | 0.06                      | 5                  | 3                  | SOT-223        | 2SK2839             | A    | Fairchild |
| FDT459N     | 30                   | 0.04                      | 6.5                | 3                  | SOT-223        | 2SK2839             | A    | Fairchild |
| FDT5060     | 60                   | 0.05                      | 7                  | 3                  | SOT-223        |                     |      | Fairchild |
| FDT5060L    | 60                   | 0.04                      | 6                  | 3                  | SOT-223        |                     |      | Fairchild |

**Power MOSFETs Cross Reference**
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| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package         | Toshiba Replacement | Note | Vender     |
|-------------|----------------------|---------------------------|--------------------|--------------------|-----------------|---------------------|------|------------|
| FDV301N     | 25                   | 4                         | 0.22               | 0.35               | SOT-23          | 2SK2009             | A    | Fairchild  |
| FDV302P     | -25                  | 10                        | -0.12              | 0.35               | SOT-23          |                     |      | Fairchild  |
| FDV303N     | 25                   | 0.45                      | 0.68               | 0.35               | SOT-23          | SSM3K02F            | A    | Fairchild  |
| FDV304P     | -25                  | 1.1                       | -0.46              | 0.35               | SOT-23          |                     |      | Fairchild  |
| FSS101      | 20                   | 0.058                     | 5                  |                    | SOP-8(Single)   |                     |      | Sanyo      |
| FSS201      | 20                   | 0.034                     | 7                  |                    | SOP-8(Single)   | TPC8008             | A    | Sanyo      |
| FSS202      | 30                   | 0.032                     | 7                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Sanyo      |
| FSS206      | 30                   | 0.018                     | 9                  |                    | SOP-8(Single)   | TPC8005-H           | A    | Sanyo      |
| FSS208      | 30                   | 0.0125                    | 10                 |                    | SOP-8(Single)   | TPC8002             | A    | Sanyo      |
| FTS1001     | -20                  |                           | -4                 |                    | TSSOP-8(Single) |                     |      | Sanyo      |
| FTS1002     | -30                  |                           | -3                 |                    | TSSOP-8(Single) | TPCS8101            | A    | Sanyo      |
| FTS2001     | 20                   |                           | 5                  |                    | TSSOP-8(Single) | TPCS8002            | A    | Sanyo      |
| FTS2002     | 30                   |                           | 5                  |                    | TSSOP-8(Single) | TPCS8001-H          | A    | Sanyo      |
| FTS2003     | 20                   |                           | 4                  |                    | TSSOP-8(Single) | TPCS8002            | A    | Sanyo      |
| FTS2004     | 30                   |                           | 4                  |                    | TSSOP-8(Single) | TPCS8001-H          | A    | Sanyo      |
| FW101       | -12                  | 0.115                     | -3                 |                    | SOP-8(Dual)     |                     |      | Sanyo      |
| FW102       | -20                  | 0.1                       | -3                 |                    | SOP-8(Dual)     | TPC8302             | A    | Sanyo      |
| FW103       | -30                  | 0.125                     | -3                 |                    | SOP-8(Dual)     | TPC8301             | A    | Sanyo      |
| FW104       | -12                  | 0.4                       | -2                 |                    | SOP-8(Dual)     |                     |      | Sanyo      |
| FW106       | -30                  | 0.16                      | -3                 |                    | SOP-8(Dual)     | TPC8301             | A    | Sanyo      |
| FW107       | -60                  | 0.31                      | -2                 |                    | SOP-8(Dual)     | TPC8304             | A    | Sanyo      |
| FW108       | -60                  | 0.33                      | -2                 |                    | SOP-8(Dual)     | TPC8304             | A    | Sanyo      |
| FW111       | -20                  | 0.058                     | -5                 |                    | SOP-8(Dual)     |                     |      | Sanyo      |
| FW201       | 20                   | 0.05                      | 5                  |                    | SOP-8(Dual)     | TPC8202             | A    | Sanyo      |
| FW202       | 20                   | 0.04                      | 5                  |                    | SOP-8(Dual)     | TPC8203             | A    | Sanyo      |
| FW203       | 30                   | 0.046                     | 5                  |                    | SOP-8(Dual)     | TPC8201             | A    | Sanyo      |
| FW204       | 20                   | 0.2                       | 2                  |                    | SOP-8(Dual)     |                     |      | Sanyo      |
| FW206       | 30                   | 0.074                     | 5                  |                    | SOP-8(Dual)     | TPC8201             | A    | Sanyo      |
| FW207       | 60                   | 0.135                     | 3                  |                    | SOP-8(Dual)     | TPC8205             | A    | Sanyo      |
| FW208       | 60                   | 0.145                     | 3                  |                    | SOP-8(Dual)     | TPC8205             | A    | Sanyo      |
| FW211       | 20                   | 0.035                     | 6                  |                    | SOP-8(Dual)     | TPC8204             | A    | Sanyo      |
| FW213       | 30                   | 0.032                     | 6                  |                    | SOP-8(Dual)     | TPC8203             | A    | Sanyo      |
| FW214       | 20                   | 0.05                      | 5                  |                    | SOP-8(Dual)     | TPC8202             | A    | Sanyo      |
| FW215       | 30                   | 0.046                     | 5                  |                    | SOP-8(Dual)     | TPC8201             | A    | Sanyo      |
| FW306       | 30/-30               | 0.065/0.16                | 5/-3               |                    | SOP-8(P&N)      | TPC8401             | A    | Sanyo      |
| FY10AAJ-03  | 30                   | 0.0135                    | 10                 |                    | SOP-8(Single)   | TPC8005-H           | A    | Mitsubishi |
| FY3ABJ-03   | -30                  | 0.1                       | -3                 |                    | SOP-8(Single)   | TPC8104-H           | A    | Mitsubishi |
| FY5ACH-03A* | 30                   | 0.05                      | 5                  |                    | SOP-8(Single)   | TPC8004             | A    | Mitsubishi |
| FY6ACH-02A* | 20                   | 0.03                      | 6                  |                    | SOP-8(Single)   | TPC8008             | A    | Mitsubishi |
| FY7AAJ-03   | 30                   | 0.03                      | 7                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Mitsubishi |
| FY8ABJ-03   | -30                  | 0.02                      | -8                 |                    | SOP-8(Single)   | TPC8106-H           | A    | Mitsubishi |
| HAT1001F    | -20                  | 0.07                      | -3.5               |                    | SOP-8(Single)   |                     |      | Hitachi    |
| HAT1002F    | -30                  | 0.07                      | -3                 |                    | SOP-8(Single)   | TPC8104-H           | A    | Hitachi    |
| HAT1004F    | -20                  | -                         | -3                 |                    | SOP-8(Single)   |                     |      | Hitachi    |
| HAT1005F    | -30                  | -                         | -3                 |                    | SOP-8(Single)   |                     |      | Hitachi    |
| HAT1006F    | -60                  | 0.14                      | -2.5               |                    | SOP-8(Single)   |                     |      | Hitachi    |
| HAT1007F    | -20                  | -                         | -3.5               |                    | SOP-8(Single)   |                     |      | Hitachi    |
| HAT1008F    | -30                  | -                         | -2.5               |                    | SOP-8(Single)   |                     |      | Hitachi    |
| HAT1016R    | -30                  | 0.09                      | -4.5               |                    | SOP-8(Dual)     | TPC8301             | A    | Hitachi    |
| HAT1020R    | -30                  | 0.07                      | -5                 |                    | SOP-8(Single)   | TPC8104-H           | A    | Hitachi    |

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| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package         | Toshiba Replacement | Note | Vender  |
|---------------|----------------------|---------------------------|--------------------|--------------------|-----------------|---------------------|------|---------|
| HAT1021R      | -20                  | 0.06                      | -5.5               |                    | SOP-8(Single)   |                     |      | Hitachi |
| HAT1023R      | -20                  | 0.04                      | -7                 |                    | SOP-8(Single)   |                     |      | Hitachi |
| HAT1024R      | -30                  | 0.34                      | -3.5               |                    | SOP-8(Dual)     | TPC8301             | A    | Hitachi |
| HAT1025R      | -20                  | 0.095                     | -4.5               |                    | SOP-8(Dual)     | TPC8302             | A    | Hitachi |
| HAT1026R      | -30                  | 0.037                     | -7                 |                    | SOP-8(Single)   | TPC8105-H           | A    | Hitachi |
| HAT1030T      | -12                  |                           | -3                 |                    | TSSOP-8(Dual)   |                     |      | Hitachi |
| HAT1031T      | -20                  |                           | -2.5               |                    | TSSOP-8(Dual)   |                     |      | Hitachi |
| HAT1033T      | -20                  |                           | -2.5               |                    | TSSOP-8(Single) |                     |      | Hitachi |
| HAT1036R      | -30                  | 0.014                     | -12                |                    | SOP-8(Single)   | TPC8103             | A    | Hitachi |
| HAT2001F      | 30                   | 0.04                      | 5                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Hitachi |
| HAT2002F      | 30                   | 0.04                      | 5                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Hitachi |
| HAT2003F      | 30                   | -                         | 3                  |                    | SOP-8(Single)   |                     |      | Hitachi |
| HAT2004F      | 15                   | 0.06                      | 4                  |                    | SOP-8(Dual)     |                     |      | Hitachi |
| HAT2005F      | 15                   | 0.055                     | 5                  |                    | SOP-8(Single)   |                     |      | Hitachi |
| HAT2006F      | 60                   | 0.06                      | 4                  |                    | SOP-8(Single)   |                     |      | Hitachi |
| HAT2007F      | 20                   | 0.053                     | 4                  |                    | SOP-8(Single)   |                     |      | Hitachi |
| HAT2016R      | 30                   | 0.045                     | 6.5                |                    | SOP-8(Dual)     | TPC8201             | A    | Hitachi |
| HAT2019R      | 30                   | 0.027                     | 8                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Hitachi |
| HAT2020R      | 30                   | 0.028                     | 8                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Hitachi |
| HAT2022R      | 30                   | 0.015                     | 11                 |                    | SOP-8(Single)   | TPC8005-H           | A    | Hitachi |
| HAT2024R      | 30                   | 0.065                     | 5.5                |                    | SOP-8(Single)   | TPC8004             | A    | Hitachi |
| HAT2025R      | 30                   | 0.026                     | 8                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Hitachi |
| HAT2026R      | 20                   | 0.015                     | 11                 |                    | SOP-8(Single)   | TPC8008             | A    | Hitachi |
| HAT2027R      | 20                   | 0.038                     | 7                  |                    | SOP-8(Dual)     | TPC8202             | A    | Hitachi |
| HAT2029R      | 20                   | 0.028                     | 8                  |                    | SOP-8(Dual)     | TPC8204             | A    | Hitachi |
| HAT2031T      | 20                   |                           | 4                  |                    | TSSOP-8(Dual)   | TPCS8201            | A    | Hitachi |
| HAT2032T      | -12                  |                           | -4                 |                    | TSSOP-8(Single) |                     |      | Hitachi |
| HAT2036R      | 30                   | 0.015                     | 12                 |                    | SOP-8(Single)   | TPC8005-H           | A    | Hitachi |
| HAT2037T      | 28                   |                           | 4.5                |                    | TSSOP-8(Single) | TPCS8002            | A    | Hitachi |
| HAT2040R      | 30                   | 0.008                     | 15                 |                    | SOP-8(Single)   | TPC8003             | A    | Hitachi |
| HAT2042T      | 20                   |                           | 5                  |                    | TSSOP-8(Dual)   | TPCS8201            | A    | Hitachi |
| HAT3004R      | 30/-30               | 0.045/0.09                | 5.5/3.5            |                    | SOP-8(P&N)      | TPC8401             | A    | Hitachi |
| HAT3006R      | 30/-30               | 0.046/0.09                | 6.5/4.5            |                    | SOP-8(P&N)      | TPC8401             | A    | Hitachi |
| HRF3205       | 55                   | 0.008                     | 100                |                    | TO-220AB        | 2SK2985             | B    | Harris  |
| HRF3205L      | 55                   | 0.008                     | 100                |                    | TO-262          | 2SK2986             | A    | Harris  |
| HRF3205S/T    | 55                   | 0.008                     | 100                |                    | TO-263          | 2SK2986             | A    | Harris  |
| HUF75307D3    | 55                   | 0.09                      | 13                 |                    | TO-251          | 2SK2782             | A    | Harris  |
| HUF75307D3S/T | 55                   | 0.09                      | 13                 |                    | TO-252          | 2SK2782             | A    | Harris  |
| HUF75307P3    | 55                   | 0.09                      | 13                 |                    | TO-220AB        | 2SK2232             | B    | Harris  |
| HUF75307T3ST  | 55                   | 0.09                      | 3.5                |                    | SOT-223         |                     |      | Harris  |
| HUF75309D3    | 55                   | 0.07                      | 17                 |                    | TO-251          | 2SK2782             | A    | Harris  |
| HUF75309D3S/T | 55                   | 0.07                      | 17                 |                    | TO-252          | 2SK2782             | A    | Harris  |
| HUF75309P3    | 55                   | 0.07                      | 17                 |                    | TO-220AB        | 2SK2232             | B    | Harris  |
| HUF75309T3ST  | 55                   | 0.07                      | 4                  |                    | SOT-223         |                     |      | Harris  |
| HUF75321D3    | 55                   | 0.036                     | 20                 |                    | TO-251          |                     |      | Harris  |
| HUF75321D3S/T | 55                   | 0.036                     | 20                 |                    | TO-252          |                     |      | Harris  |
| HUF75321P3    | 55                   | 0.034                     | 31                 |                    | TO-220AB        | 2SK2385             | B    | Harris  |
| HUF75321S3    | 55                   | 0.034                     | 31                 |                    | TO-262          | 2SK2266             | A    | Harris  |
| HUF75321S3S/T | 55                   | 0.034                     | 31                 |                    | TO-263          | 2SK2266             | A    | Harris  |
| HUF75329D3    | 55                   | 0.026                     | 20                 |                    | TO-251          |                     |      | Harris  |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package     | Toshiba Replacement | Note | Vender |
|---------------|----------------------|---------------------------|--------------------|--------------------|-------------|---------------------|------|--------|
| HUF75329D3S/T | 55                   | 0.026                     | 20                 |                    | TO-252      |                     |      | Harris |
| HUF75329G3    | 55                   | 0.024                     | 42                 |                    | TO-247      | 2SK2233             | A    | Harris |
| HUF75329P3    | 55                   | 0.024                     | 42                 |                    | TO-220AB    | 2SK2385             | B    | Harris |
| HUF75329S3    | 55                   | 0.024                     | 42                 |                    | TO-262      | 2SK2266             | A    | Harris |
| HUF75329S3S/T | 55                   | 0.024                     | 42                 |                    | TO-263      | 2SK2266             | A    | Harris |
| HUF75332G3    | 55                   | 0.019                     | 52                 |                    | TO-247      | 2SK2173             | A    | Harris |
| HUF75332P3    | 55                   | 0.019                     | 52                 |                    | TO-220AB    | 2SK2312             | B    | Harris |
| HUF75332S3    | 55                   | 0.019                     | 52                 |                    | TO-262      | 2SK2376             | A    | Harris |
| HUF75332S3S/T | 55                   | 0.019                     | 52                 |                    | TO-263      | 2SK2376             | A    | Harris |
| HUF75333G3    | 55                   | 0.016                     | 56                 |                    | TO-247      | 2SK2173             | A    | Harris |
| HUF75333P3    | 55                   | 0.016                     | 56                 |                    | TO-220AB    | 2SK2312             | B    | Harris |
| HUF75333S3    | 55                   | 0.016                     | 56                 |                    | TO-262      | 2SK2376             | A    | Harris |
| HUF75333S3S/T | 55                   | 0.016                     | 56                 |                    | TO-263      | 2SK2376             | A    | Harris |
| HUF75337G3    | 55                   | 0.014                     | 62                 |                    | TO-247      | 2SK2173             | A    | Harris |
| HUF75337P3    | 55                   | 0.014                     | 62                 |                    | TO-220AB    | 2SK2312             | B    | Harris |
| HUF75337S3    | 55                   | 0.014                     | 62                 |                    | TO-262      | 2SK2376             | A    | Harris |
| HUF75337S3S/T | 55                   | 0.014                     | 62                 |                    | TO-263      | 2SK2376             | A    | Harris |
| HUF75339G3    | 55                   | 0.012                     | 70                 |                    | TO-247      | 2SK2313             | A    | Harris |
| HUF75339P3    | 55                   | 0.012                     | 70                 |                    | TO-220AB    |                     |      | Harris |
| HUF75339S3    | 55                   | 0.012                     | 70                 |                    | TO-262      |                     |      | Harris |
| HUF75339S3S/T | 55                   | 0.012                     | 70                 |                    | TO-263      |                     |      | Harris |
| HUF75343G3    | 55                   | 0.009                     | 75                 |                    | TO-247      | 2SK2313             | A    | Harris |
| HUF75343P3    | 55                   | 0.008                     | 75                 |                    | TO-220AB    | 2SK2985             | B    | Harris |
| HUF75343S3    | 55                   | 0.009                     | 75                 |                    | TO-262      |                     |      | Harris |
| HUF75343S3S/T | 55                   | 0.009                     | 75                 |                    | TO-263      |                     |      | Harris |
| HUF75344G3    | 55                   | 0.008                     | 75                 |                    | TO-247      | 2SK2987             | A    | Harris |
| HUF75344PS    | 55                   | 0.008                     | 75                 |                    | TO-220AB    | 2SK2985             | B    | Harris |
| HUF75344S3    | 55                   | 0.008                     | 75                 |                    | TO-262      | 2SK2986             | A    | Harris |
| HUF75344S3S/T | 55                   | 0.008                     | 75                 |                    | TO-263      | 2SK2986             | A    | Harris |
| HUF75345G3    | 55                   | 0.007                     | 75                 |                    | TO-247      | 2SK2987             | A    | Harris |
| HUF75345P3    | 55                   | 0.007                     | 75                 |                    | TO-220      | 2SK2985             | B    | Harris |
| HUF75345S3    | 55                   | 0.007                     | 75                 |                    | TO-262      | 2SK2986             | A    | Harris |
| HUF75345S3S/T | 55                   | 0.007                     | 75                 |                    | TO-263      | 2SK2986             | A    | Harris |
| IRC530        | 100                  | 0.16                      | 14                 | 88                 | TO-220 5PIN |                     |      | IR     |
| IRC540        | 100                  | 0.077                     | 28                 | 150                | TO-220 5PIN |                     |      | IR     |
| IRC630        | 200                  | 0.4                       | 9                  | 74                 | TO-220 5PIN |                     |      | IR     |
| IRC634        | 250                  | 0.45                      | 8.1                | 74                 | TO-220 5PIN |                     |      | IR     |
| IRC640        | 200                  | 0.18                      | 18                 | 125                | TO-220 5PIN |                     |      | IR     |
| IRC644        | 250                  | 0.28                      | 14                 | 125                | TO-220 5PIN |                     |      | IR     |
| IRC730        | 400                  | 1                         | 5.5                | 74                 | TO-220 5PIN |                     |      | IR     |
| IRC740        | 400                  | 0.55                      | 10                 | 125                | TO-220 5PIN |                     |      | IR     |
| IRC830        | 500                  | 1.5                       | 4.5                | 74                 | TO-220 5PIN |                     |      | IR     |
| IRC840        | 500                  | 0.85                      | 8                  | 125                | TO-220 5PIN |                     |      | IR     |
| IRCP054       | 60                   | 0.014                     | 70                 | 230                | TO-3P 5PIN  |                     |      | IR     |
| IRCZ24        | 60                   | 0.1                       | 17                 | 60                 | TO-220 5PIN |                     |      | IR     |
| IRCZ34        | 60                   | 0.05                      | 30                 | 88                 | TO-220 5PIN |                     |      | IR     |
| IRCZ44        | 60                   | 0.028                     | 50                 | 150                | TO-220 5PIN |                     |      | IR     |
| IRF1010       | 55                   | 0.014                     | 75                 | 150                | TO-220AB    | 2SK2312             | B    | IR     |
| IRF1010E      | 60                   | 0.012                     | 81                 | 170                | TO-220AB    | 2SK2985             | B    | IR     |
| IRF1010EL     | 60                   | 0.012                     | 83                 | 170                | TO-262      | 2SK2986             | A    | IR     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRF1010ES   | 60                   | 0.012                     | 83                 | 170                | D2PAK    | 2SK2986             | A    | IR      |
| IRF1010N    | 55                   | 0.012                     | 72                 | 130                | TO-220AB |                     |      | IR      |
| IRF1010NL   | 55                   | 0.011                     | 84                 | 170                | TO-262   |                     |      | IR      |
| IRF1010NS   | 55                   | 0.011                     | 84                 | 3.8                | D2PAK    |                     |      | IR      |
| IRF1010S    | 55                   | 0.014                     | 75                 | 150                | D2PAK    | 2SK2376             | A    | IR      |
| IRF1310     | 100                  | 0.04                      | 43                 | 150                | TO-220AB | 2SK2466             | B    | IR      |
| IRF1310N    | 100                  | 0.036                     | 36                 | 120                | TO-220AB |                     |      | IR      |
| IRF1310NS   | 100                  | 0.036                     | 36                 | 120                | D2PAK    |                     |      | IR      |
| IRF1310S    | 100                  | 0.04                      | 43                 | 150                | D2PAK    | 2SK2466             | B    | IR      |
| IRF2807     | 75                   | 0.013                     | 71                 | 150                | TO-220AB |                     |      | IR      |
| IRF2807L    | 75                   | 0.013                     | 71                 | 150                | TO-262   |                     |      | IR      |
| IRF2807S    | 75                   | 0.013                     | 71                 | 150                | D2PAK    |                     |      | IR      |
| IRF3205     | 55                   | 0.008                     | 98                 | 150                | TO-220AB | 2SK2985             | B    | IR      |
| IRF3205L    | 55                   | 0.008                     | 110                | 200                | TO-262   | 2SK2986             | A    | IR      |
| IRF3205S    | 55                   | 0.008                     | 110                | 200                | D2PAK    | 2SK2986             | A    | IR      |
| IRF3315     | 150                  | 0.082                     | 21                 | 94                 | TO-220AB |                     |      | IR      |
| IRF3315L    | 150                  | 0.082                     | 21                 | 94                 | TO-262   |                     |      | IR      |
| IRF3315S    | 150                  | 0.082                     | 21                 | 94                 | D2PAK    |                     |      | IR      |
| IRF3415     | 150                  | 0.042                     | 37                 | 150                | TO-220AB |                     |      | IR      |
| IRF3415S    | 150                  | 0.042                     | 37                 | 150                | D2PAK    |                     |      | IR      |
| IRF3710     | 100                  | 0.028                     | 46                 | 150                | TO-220AB |                     |      | IR      |
| IRF3710S    | 100                  | 0.028                     | 46                 | 150                | D2PAK    |                     |      | IR      |
| IRF4905     | -55                  | 0.02                      | 64                 | 150                | TO-220AB |                     |      | IR      |
| IRF4905L    | -55                  | 0.02                      | -74                | 200                | TO-262   |                     |      | IR      |
| IRF4905S    | -55                  | 0.02                      | -74                | 3.8                | D2PAK    |                     |      | IR      |
| IRF510      | 100                  | 0.54                      | 5.6                | 43                 | TO-220AB | 2SK2399             | B    | IR      |
| IRF510A     | 100                  | 0.4                       | 5.6                | 33                 | TO-220AB | 2SK2399             | B    | Samsung |
| IRF510S     | 100                  | 0.54                      | 5.6                | 43                 | D2PAK    | 2SK2399             | B    | IR      |
| IRF511(R)   | 80                   | 0.54                      | 5.6                |                    | TO-220AB | 2SK2399             | B    | Harris  |
| IRF512(R)   | 100                  | 0.74                      | 4.9                |                    | TO-220AB | 2SK2399             | B    | Harris  |
| IRF513(R)   | 80                   | 0.74                      | 4.9                |                    | TO-220AB | 2SK2399             | B    | Harris  |
| IRF520      | 100                  | 0.27                      | 9.2                | 60                 | TO-220AB | 2SK2399             | B    | IR      |
| IRF520      | 100                  | 0.27                      | 10                 |                    | TO-220AB | 2SK2399             | B    | ST      |
| IRF520A     | 100                  | 0.2                       | 9.2                | 45                 | TO-220AB | 2SK2399             | B    | Samsung |
| IRF520FI    | 100                  | 0.27                      | 7                  |                    | TO-220FP | 2SK2399             | B    | ST      |
| IRF520N     | 100                  | 0.2                       | 9.5                | 47                 | TO-220AB | 2SK2399             | B    | IR      |
| IRF520NS    | 100                  | 0.2                       | 9.5                | 47                 | D2PAK    | 2SK2399             | B    | IR      |
| IRF520S     | 100                  | 0.27                      | 9.2                | 60                 | D2PAK    | 2SK2399             | B    | IR      |
| IRF521(R)   | 80                   | 0.27                      | 9.2                |                    | TO-220AB | 2SK2399             | B    | Harris  |
| IRF5210     | -100                 | 0.06                      | -35                | 150                | TO-220AB |                     |      | IR      |
| IRF5210S    | -100                 | 0.06                      | -35                | 150                | D2PAK    |                     |      | IR      |
| IRF522(R)   | 100                  | 0.36                      | 8                  |                    | TO-220AB |                     |      | Harris  |
| IRF523(R)   | 80                   | 0.36                      | 8                  |                    | TO-220AB | 2SK2399             | B    | Harris  |
| IRF530      | 100                  | 0.16                      | 14                 | 88                 | TO-220AB | 2SK2314             | A    | IR      |
| IRF530      | 100                  | 0.16                      | 16                 |                    | TO-220AB | 2SK2314             | A    | ST      |
| IRF5305     | -55                  | 0.06                      | -31                | 110                | TO-220AB | 2SJ349              | B    | IR      |
| IRF5305L    | -55                  | 0.06                      | -31                | 110                | TO-262   | 2SJ401              | A    | IR      |
| IRF5305S    | -55                  | 0.06                      | -31                | 110                | D2PAK    | 2SJ401              | A    | IR      |
| IRF530A     | 100                  | 0.11                      | 14                 | 55                 | TO-220AB | 2SK2314             | A    | Samsung |
| IRF530FI    | 100                  | 0.16                      | 10                 |                    | TO-220FP | 2SK2391             | A    | ST      |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRF530N     | 100                  | 0.11                      | 15                 | 60                 | TO-220AB | 2SK2314             | A    | IR      |
| IRF530NS    | 100                  | 0.11                      | 15                 | 63                 | D2PAK    | 2SK2789             | A    | IR      |
| IRF530S     | 100                  | 0.16                      | 14                 | 88                 | D2PAK    | 2SK2789             | A    | IR      |
| IRF531(R)   | 80                   | 0.16                      | 14                 |                    | TO-220AB | 2SK2314             | A    | Harris  |
| IRF532(R)   | 100                  | 0.23                      | 12                 |                    | TO-220AB | 2SK2399             | B    | Harris  |
| IRF533(R)   | 80                   | 0.23                      | 12                 |                    | TO-220AB | 2SK2314             | A    | Harris  |
| IRF540      | 100                  | 0.077                     | 28                 | 150                | TO-220AB | 2SK2314             | A    | IR      |
| IRF540      | 100                  | 0.077                     | 30                 |                    | TO-220AB | 2SK2314             | A    | ST      |
| IRF540A     | 100                  | 0.052                     | 28                 | 107                | TO-220AB | 2SK2466             | B    | Samsung |
| IRF540FI    | 100                  | 0.077                     | 16                 |                    | TO-220FP | 2SK2391             | A    | ST      |
| IRF540N     | 100                  | 0.052                     | 27                 | 94                 | TO-220AB | 2SK2466             | B    | IR      |
| IRF540NS    | 100                  | 0.052                     | 27                 | 110                | D2PAK    | 2SK2466             | B    | IR      |
| IRF540S     | 100                  | 0.077                     | 28                 | 150                | D2PAK    | 2SK2789             | A    | IR      |
| IRF541(R)   | 80                   | 0.077                     | 28                 |                    | TO-220AB | 2SK2314             | A    | Harris  |
| IRF542(R)   | 100                  | 0.1                       | 25                 |                    | TO-220AB | 2SK2314             | A    | Harris  |
| IRF543(R)   | 80                   | 0.1                       | 25                 |                    | TO-220AB | 2SK2314             | A    | Harris  |
| IRF550A     | 100                  | 0.04                      | 40                 | 167                | TO-220AB | 2SK2466             | B    | Samsung |
| IRF610      | 200                  | 1.5                       | 3.3                | 36                 | TO-220AB | 2SK2381             | B    | IR      |
| IRF610A     | 200                  | 1.5                       | 3.3                | 38                 | TO-220AB | 2SK2381             | B    | Samsung |
| IRF610S     | 200                  | 1.5                       | 3.3                | 36                 | D2PAK    | 2SK2920             | B    | IR      |
| IRF611(R)   | 150                  | 1.5                       | 3.3                |                    | TO-220AB | 2SK2381             | B    | Harris  |
| IRF612(R)   | 200                  | 2.4                       | 2.6                |                    | TO-220AB | 2SK2381             | B    | Harris  |
| IRF613(R)   | 150                  | 2.4                       | 2.6                |                    | TO-220AB | 2SK2381             | B    | Harris  |
| IRF614      | 250                  | 2                         | 2.7                | 36                 | TO-220AB | 2SK2840             | B    | IR      |
| IRF614A     | 250                  | 2                         | 2.8                | 40                 | TO-220AB | 2SK2840             | B    | Samsung |
| IRF614S     | 250                  | 2                         | 2.7                | 36                 | D2PAK    |                     |      | IR      |
| IRF620      | 200                  | 0.8                       | 5.2                | 50                 | TO-220AB | 2SK2381             | B    | IR      |
| IRF620      | 200                  | 0.8                       | 7                  |                    | TO-220AB | 2SK2381             | B    | ST      |
| IRF620A     | 200                  | 0.8                       | 5                  | 47                 | TO-220AB | 2SK2381             | B    | Samsung |
| IRF620FI    | 200                  | 0.8                       | 4.3                |                    | TO-220FP | 2SK2381             | B    | ST      |
| IRF620S     | 200                  | 0.8                       | 5.2                | 50                 | D2PAK    | 2SK2920             | B    | IR      |
| IRF621(R)   | 150                  | 0.8                       | 5                  |                    | TO-220AB | 2SK2381             | B    | Harris  |
| IRF6215     | -150                 | 0.29                      | -11                | 83                 | TO-220AB |                     |      | IR      |
| IRF622(R)   | 200                  | 1.2                       | 4                  |                    | TO-220AB | 2SK2381             | B    | Harris  |
| IRF623(R)   | 150                  | 1.2                       | 4                  |                    | TO-220AB | 2SK2381             | B    | Harris  |
| IRF624      | 250                  | 1.1                       | 4.4                | 50                 | TO-220AB | 2SK2840             | B    | IR      |
| IRF624A     | 250                  | 1.1                       | 4.1                | 49                 | TO-220AB | 2SK2840             | B    | Samsung |
| IRF624S     | 250                  | 1.1                       | 4.4                | 50                 | D2PAK    |                     |      | IR      |
| IRF625      | 250                  | 1.1                       | 3.8                |                    | TO-220AB | 2SK2840             | B    | Harris  |
| IRF626      | 275                  | 0.68                      | 6.5                |                    | TO-220AB |                     |      | Harris  |
| IRF627      | 275                  | 1.1                       | 3.8                |                    | TO-220AB |                     |      | Harris  |
| IRF630      | 200                  | 0.4                       | 9                  | 74                 | TO-220AB | YTA630              | A    | IR      |
| IRF630A     | 200                  | 0.4                       | 9                  | 72                 | TO-220AB | YTA630              | A    | Samsung |
| IRF630S     | 200                  | 0.4                       | 9                  | 74                 | D2PAK    | 2SK2401             | A    | IR      |
| IRF631(R)   | 150                  | 0.4                       | 9                  |                    | TO-220AB | 2SK2350             | B    | Harris  |
| IRF632(R)   | 200                  | 0.4                       | 9                  |                    | TO-220AB | YTA630              | A    | Harris  |
| IRF633(R)   | 150                  | 0.6                       | 8                  |                    | TO-220AB | 2SK2350             | B    | Harris  |
| IRF634      | 250                  | 0.45                      | 8.1                | 74                 | TO-220AB | 2SK2914             | A    | IR      |
| IRF634A     | 250                  | 0.45                      | 8.1                | 74                 | TO-220AB | 2SK2914             | A    | Samsung |
| IRF634S     | 250                  | 0.45                      | 8.1                | 74                 | D2PAK    | 2SK2598             | A    | IR      |

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## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|---------|
| IRF635      | 250                  | 0.45                      | 8.1                |                    | TO-220AB      | 2SK2914             | A    | Harris  |
| IRF636      | 275                  | 0.34                      | 13                 |                    | TO-220AB      |                     |      | Harris  |
| IRF637      | 275                  | 0.45                      | 8.1                |                    | TO-220AB      |                     |      | Harris  |
| IRF640      | 200                  | 0.18                      | 18                 | 125                | TO-220AB      | YTA640              | A    | IR      |
| IRF640A     | 200                  | 0.18                      | 18                 | 139                | TO-220AB      | YTA640              | A    | Samsung |
| IRF640S     | 200                  | 0.18                      | 18                 | 125                | D2PAK         | 2SK2401             | A    | IR      |
| IRF641(R)   | 150                  | 0.18                      | 18                 |                    | TO-220AB      | 2SK2382             | B    | Harris  |
| IRF642(R)   | 200                  | 0.18                      | 18                 |                    | TO-220AB      | 2SK2382             | B    | Harris  |
| IRF643(R)   | 150                  | 0.22                      | 16                 |                    | TO-220AB      | 2SK2382             | B    | Harris  |
| IRF644      | 250                  | 0.28                      | 14                 | 125                | TO-220AB      | 2SK2508             | B    | IR      |
| IRF644A     | 250                  | 0.28                      | 14                 | 139                | TO-220AB      | 2SK2508             | B    | Samsung |
| IRF644S     | 250                  | 0.28                      | 14                 | 125                | D2PAK         | 2SK2598             | A    | IR      |
| IRF645      | 250                  | 0.28                      | 14                 |                    | TO-220AB      | 2SK2508             | B    | Harris  |
| IRF646      | 275                  | 0.28                      | 15                 |                    | TO-220AB      |                     |      | Harris  |
| IRF647      | 275                  | 0.28                      | 14                 |                    | TO-220AB      |                     |      | Harris  |
| IRF650A     | 200                  | 0.085                     | 28                 | 156                | TO-220AB      |                     |      | Samsung |
| IRF654A     | 250                  | 0.14                      | 21                 | 156                | TO-220AB      |                     |      | Samsung |
| IRF710      | 400                  | 3.6                       | 2                  | 36                 | TO-220AB      | 2SK2862             | B    | IR      |
| IRF7101     | 20                   | 0.1                       | 3.5                | 2                  | SOP-8(Dual)   | TPC8202             | A    | IR      |
| IRF7102     | 50                   | 0.3                       | 2                  | 2                  | SOP-8(Dual)   | TPC8205             | A    | IR      |
| IRF7103     | 50                   | 0.13                      | 3                  | 2                  | SOP-8(Dual)   | TPC8205             | A    | IR      |
| IRF7104     | -20                  | 0.25                      | 2.3                | 2                  | SOP-8(Dual)   | TPC8302             | A    | IR      |
| IRF7105     | 25                   | 0.1/0.25                  | 3.5/-2.3           | 2                  | SOP-8(P&N)    |                     |      | IR      |
| IRF7106     | 20                   | 0.125/0.25                | 3/-2.5             | 2                  | SOP-8(P&N)    |                     |      | IR      |
| IRF7107     | 20                   | 0.125/0.16                | 3/-2.8             | 2                  | SOP-8(P&N)    |                     |      | IR      |
| IRF710A     | 400                  | 3.6                       | 2                  | 36                 | TO-220AB      | 2SK2679             | B    | Samsung |
| IRF710S     | 400                  | 3.6                       | 2                  | 36                 | D2PAK         |                     |      | IR      |
| IRF711(R)   | 350                  | 3.6                       | 2                  |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF712(R)   | 400                  | 5                         | 1.7                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF713(R)   | 350                  | 5                         | 1.7                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF720      | 400                  | 1.8                       | 3.3                | 50                 | TO-220AB      | 2SK2679             | B    | IR      |
| IRF7201     | 30                   | 0.03                      | 7                  | 2.5                | SOP-8(Single) | TPC8001             | A    | IR      |
| IRF7202     | -20                  | 0.25                      | 2.5                | 2.5                | SOP-8(Single) | TPC8102             | A    | IR      |
| IRF7203     | -20                  | 0.1                       | 4.3                | 2.5                | SOP-8(Single) | TPC8102             | A    | IR      |
| IRF7204     | -20                  | 0.06                      | 5.3                | 2.5                | SOP-8(Single) | TPC8102             | A    | IR      |
| IRF7205     | -30                  | 0.07                      | -4.6               | 2.5                | SOP-8(Single) | TPC8102             | A    | IR      |
| IRF7205     | -30                  | 0.07                      | 5.3                | 2.5                | SOP-8(Single) | TPC8104-H           | A    | IR      |
| IRF720A     | 400                  | 1.8                       | 3.3                | 46                 | TO-220AB      | 2SK2679             | B    | Samsung |
| IRF720S     | 400                  | 1.8                       | 3.3                | 50                 | D2PAK         | 2SK2838             | A    | IR      |
| IRF721(R)   | 350                  | 1.8                       | 3.3                |                    | TO-220AB      | 2SK2679             | B    | Harris  |
| IRF722(R)   | 400                  | 2.5                       | 2.8                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF723(R)   | 350                  | 2.5                       | 2.8                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF730      | 400                  | 1                         | 5.5                | 74                 | TO-220AB      | 2SK2679             | B    | IR      |
| IRF7301     | 20                   | 0.05                      | 4.3                | 1.4                | SOP-8(Dual)   | TPC8202             | A    | IR      |
| IRF7303     | 30                   | 0.05                      | 4                  | 1.4                | SOP-8(Dual)   | TPC8201             | A    | IR      |
| IRF7304     | -20                  | 0.09                      | 3.6                | 1.4                | SOP-8(Dual)   | TPC8302             | A    | IR      |
| IRF7306     | -30                  | 0.1                       | 3                  | 1.4                | SOP-8(Dual)   | TPC8301             | A    | IR      |
| IRF7307     | 20/-20               | 0.05/0.09                 | 4.3/3.6            | 1.4                | SOP-8(P&N)    |                     |      | IR      |
| IRF7309     | 30/-30               | 0.05/0.1                  | 4.0/3.0            | 1.4                | SOP-8(P&N)    | TPC8401             | A    | IR      |
| IRF730A     | 400                  | 1                         | 5.5                | 73                 | TO-220AB      | 2SK2679             | B    | Samsung |

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| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|---------|
| IRF730S     | 400                  | 1                         | 5.5                | 74                 | D2PAK         | 2SK2838             | A    | IR      |
| IRF731(R)   | 350                  | 1                         | 5.5                |                    | TO-220AB      | 2SK2679             | B    | Harris  |
| IRF7311     | 20                   | 0.029                     | 6.6                | 2                  | SOP-8(Dual)   | TPC8204             | A    | IR      |
| IRF7313     | 30                   | 0.029                     | 6.5                | 2                  | SOP-8(Dual)   | TPC8203             | A    | IR      |
| IRF7314     | -20                  | 0.058                     | -5.3               | 2                  | SOP-8(Dual)   | TPC8302             | A    | IR      |
| IRF7316     | -30                  | 0.058                     | -4.9               | 2                  | SOP-8(Dual)   | TPC8303             | A    | IR      |
| IRF7317     | 20/-20               | 0.029/0.058               | 6.6/-5.3           | 2                  | SOP-8(P&N)    |                     |      | IR      |
| IRF7319     | 30/-30               | 0.029/0.058               | 6.5/-4.9           | 2                  | SOP-8(P&N)    |                     |      | IR      |
| IRF732(R)   | 400                  | 1.5                       | 4.5                |                    | TO-220AB      | 2SK2679             | B    | Harris  |
| IRF733(R)   | 350                  | 1.5                       | 4.5                |                    | TO-220AB      | 2SK2679             | B    | Harris  |
| IRF7333     | 30                   | 0.1/0.05                  | 3.5/4.9            | 2                  | SOP-8(Dual)   |                     |      | IR      |
| IRF734      | 450                  | 1.2                       | 4.9                | 74                 | TO-220AB      | 2SK2542             | A    | IR      |
| IRF7343     | 55/-55               | 0.06/0.105                | 4.7/3.4            |                    | SOP-8(P&N)    |                     |      | IR      |
| IRF737LC    | 300                  | 0.75                      | 6.1                | 74                 | TO-220AB      |                     |      | IR      |
| IRF7389     | 30/-30               | 0.029/0.058               | 7.3/-5.3           |                    | SOP-8(P&N)    | TPC8401             | A    | IR      |
| IRF740      | 400                  | 0.55                      | 10                 | 125                | TO-220AB      | 2SK2841             | A    | IR      |
| IRF7401     | 20                   | 0.022                     | 8.7                | 2.5                | SOP-8(Single) | TPC8001             | A    | IR      |
| IRF7403     | 30                   | 0.022                     | 8.5                | 2.5                | SOP-8(Single) | TPC8001             | A    | IR      |
| IRF7404     | -20                  | 0.04                      | -6.7               | 2.5                | SOP-8(Single) | TPC8102             | A    | IR      |
| IRF7406     | -30                  | 0.045                     | 4.7                | 1.6                | SOP-8(Single) | TPC8105-H           | A    | IR      |
| IRF740A     | 400                  | 0.55                      | 10                 | 134                | TO-220AB      | 2SK2841             | A    | Samsung |
| IRF740LC    | 400                  | 0.55                      | 10                 | 125                | TO-220AB      | 2SK2841             | A    | IR      |
| IRF740S     | 400                  | 0.55                      | 10                 | 125                | D2PAK         | 2SK2949             | A    | IR      |
| IRF741(R)   | 350                  | 0.55                      | 10                 |                    | TO-220AB      | 2SK2841             | A    | Harris  |
| IRF7413     | 30                   | 0.011                     | 13                 | 2.5                | SOP-8(Single) | TPC8003             | A    | IR      |
| IRF7413A    | 30                   | 0.0135                    | 12                 | 2.5                | SOP-8(Single) | TPC8005-H           | A    | IR      |
| IRF7416     | -30                  | 0.02                      | 8.8                | 1                  | SOP-8(Single) | TPC8106-H           | A    | IR      |
| IRF742(R)   | 400                  | 0.8                       | 8                  |                    | TO-220AB      | 2SK2841             | A    | Harris  |
| IRF7421D1   | 30                   | 0.035                     | 6.4                |                    | SOP-8(N&SBD)  |                     |      | IR      |
| IRF7422D2   | -20                  | 0.09                      | -4.6               |                    | SOP-8(P&SBD)  |                     |      | IR      |
| IRF743(R)   | 350                  | 0.8                       | 8                  |                    | TO-220AB      | 2SK2542             | A    | Harris  |
| IRF744      | 450                  | 0.63                      | 8.8                | 125                | TO-220AB      | 2SK2542             | A    | IR      |
| IRF7501     | 20                   | 0.135                     | 1.7                | 0.63               | Micro-8       |                     |      | IR      |
| IRF7503     | 30                   | 0.135                     | 1.7                | 0.63               | Micro-8       |                     |      | IR      |
| IRF7504     | -20                  | 0.27                      | 1.2                | 0.63               | Micro-8       | SSM8J01FU           | A    | IR      |
| IRF7506     | -30                  | 0.27                      | 1.2                | 0.63               | Micro-8       |                     |      | IR      |
| IRF7507     | 20/-20               | 0.135/0.27                | 1.7/1.3            | 0.63               | Micro-8       |                     |      | IR      |
| IRF7509     | 30/-30               | 0.135/0.27                | 1.7/1.2            | 0.63               | Micro-8       |                     |      | IR      |
| IRF750A     | 400                  | 0.3                       | 15                 | 156                | TO-220AB      |                     |      | Samsung |
| IRF7601     | 20                   | 0.035                     | 3.8                | 0.78               | Micro-8       |                     |      | IR      |
| IRF7603     | 30                   | 0.035                     | 3.7                | 0.78               | Micro-8       |                     |      | IR      |
| IRF7604     | -20                  | 0.09                      | 2.4                | 0.78               | Micro-8       |                     |      | IR      |
| IRF7606     | -30                  | 0.09                      | 2.4                | 0.78               | Micro-8       |                     |      | IR      |
| IRF7805     | 30                   | 0.011                     | 13                 |                    | SOP-8(Single) | TPC8007-H           | A    | IR      |
| IRF7807     | 30                   | 0.025                     | 8.3                |                    | SOP-8(Single) | TPC8001             | A    | IR      |
| IRF820      | 500                  | 3                         | 2.5                | 50                 | TO-220AB      | 2SK2862             | B    | IR      |
| IRF820A     | 500                  | 3                         | 2.5                | 49                 | TO-220AB      | 2SK2661             | A    | Samsung |
| IRF820S     | 500                  | 3                         | 2.5                | 50                 | D2PAK         |                     |      | IR      |
| IRF821(R)   | 450                  | 3                         | 2.5                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF822      | 500                  | 4                         | 2.8                | 75                 | TO-220AB      | 2SK2862             | B    | ST      |

**Power MOSFETs Cross Reference**
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| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|---------|
| IRF822(R)   | 500                  | 4                         | 2.2                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF822FI    | 500                  | 4                         | 1.9                | 35                 | TO-220IS      | 2SK2862             | A    | ST      |
| IRF823(R)   | 450                  | 4                         | 2.2                |                    | TO-220AB      | 2SK2862             | B    | Harris  |
| IRF830      | 500                  | 1.5                       | 4.5                | 74                 | TO-220AB      | 2SK2661             | A    | IR      |
| IRF830A     | 500                  | 1.5                       | 4.5                | 73                 | TO-220AB      | 2SK2661             | A    | Samsung |
| IRF830S     | 500                  | 1.5                       | 4.5                | 74                 | D2PAK         | 2SK2991             | A    | IR      |
| IRF831      | 450                  | 1.5                       | 4.5                | 100                | TO-220AB      | 2SK2661             | A    | ST      |
| IRF831(R)   | 450                  | 1.5                       | 4.5                |                    | TO-220AB      | 2SK2661             | A    | Harris  |
| IRF831FI    | 450                  | 1.5                       | 3                  | 35                 | TO-220IS      | 2SK2662             | A    | ST      |
| IRF832(R)   | 500                  | 2                         | 4                  |                    | TO-220AB      | 2SK2661             | A    | Harris  |
| IRF833(R)   | 450                  | 2                         | 4                  |                    | TO-220AB      | 2SK2661             | A    | Harris  |
| IRF840      | 500                  | 0.85                      | 8                  | 125                | TO-220AB      | 2SK2542             | A    | IR      |
| IRF840A     | 500                  | 0.85                      | 8                  | 134                | TO-220AB      | YTA840              | A    | Samsung |
| IRF840LC    | 500                  | 0.85                      | 8                  | 125                | TO-220AB      | 2SK2542             | A    | IR      |
| IRF840S     | 500                  | 0.85                      | 8                  | 125                | D2PAK         | 2SK2776             | A    | IR      |
| IRF841      | 450                  | 0.85                      | 8                  | 125                | TO-220AB      | 2SK2542             | A    | ST      |
| IRF841(R)   | 450                  | 0.85                      | 8                  |                    | TO-220AB      | 2SK2542             | A    | Harris  |
| IRF841FI    | 450                  | 0.85                      | 4.5                | 40                 | TO-220IS      | 2SK2543             | A    | ST      |
| IRF842(R)   | 500                  | 1.1                       | 7                  |                    | TO-220AB      | 2SK2542             | A    | Harris  |
| IRF843(R)   | 450                  | 1.1                       | 7                  |                    | TO-220AB      | 2SK2542             | A    | Harris  |
| IRF9410     | 30                   | 0.03                      | 7                  | 2.5                | SOP-8(Single) | TPC8001             | A    | IR      |
| IRF9510     | -100                 | 1.2                       | 4                  | 43                 | TO-220AB      |                     |      | IR      |
| IRF9510S    | -100                 | 1.2                       | 4                  | 43                 | D2PAK         |                     |      | IR      |
| IRF9511     | -60                  | 1.2                       | 3                  |                    | TO-220AB      | 2SJ438              | B    | Harris  |
| IRF9512     | -100                 | 1.2                       | 3                  |                    | TO-220AB      |                     |      | Harris  |
| IRF9513     | -60                  | 1.9                       | 2.5                |                    | TO-220AB      | 2SJ438              | B    | Harris  |
| IRF9520     | -100                 | 0.6                       | 6.8                | 60                 | TO-220AB      |                     |      | IR      |
| IRF9520NL   | -100                 | 0.48                      | -6.7               | 47                 | TO-262        |                     |      | IR      |
| IRF9520NS   | -100                 | 0.48                      | -6.7               | 47                 | D2PAK         |                     |      | IR      |
| IRF9520S    | -100                 | 0.6                       | 6.8                | 60                 | D2PAK         |                     |      | IR      |
| IRF9521     | -60                  | 0.6                       | 6                  |                    | TO-220AB      | 2SJ438              | B    | Harris  |
| IRF9522     | -100                 | 0.8                       | 5                  |                    | TO-220AB      |                     |      | Harris  |
| IRF9523     | -60                  | 0.8                       | 5                  |                    | TO-220AB      | 2SJ438              | B    | Harris  |
| IRF9530     | -100                 | 0.3                       | 12                 | 88                 | TO-220AB      | 2SJ380              | B    | IR      |
| IRF9530N    | -100                 | 0.2                       | -13                | 75                 | TO-220AB      | 2SJ380              | B    | IR      |
| IRF9530NL   | -100                 | 0.2                       | -14                | 75                 | TO-262        | 2SJ380              | B    | IR      |
| IRF9530NS   | -100                 | 0.2                       | -14                | 75                 | D2PAK         |                     |      | IR      |
| IRF9530S    | -100                 | 0.3                       | 12                 | 88                 | D2PAK         | 2SJ412              | A    | IR      |
| IRF9531     | -60                  | 0.3                       | 12                 |                    | TO-220AB      | 2SJ304              | B    | Harris  |
| IRF9532     | -100                 | 0.4                       | 10                 |                    | TO-220AB      | 2SJ380              | B    | Harris  |
| IRF9533     | -60                  | 0.4                       | 10                 |                    | TO-220AB      | 2SJ304              | B    | Harris  |
| IRF9540     | -100                 | 0.2                       | 19                 | 150                | TO-220AB      | 2SJ380              | B    | IR      |
| IRF9540N    | -100                 | 0.117                     | -19                | 94                 | TO-220AB      | 2SJ464              | B    | IR      |
| IRF9540NS   | -100                 | 0.117                     | -19                | 94                 | D2PAK         |                     |      | IR      |
| IRF9540S    | -100                 | 0.2                       | 19                 | 150                | D2PAK         | 2SJ412              | A    | IR      |
| IRF9541     | -60                  | 0.2                       | 19                 |                    | TO-220AB      | 2SJ349              | B    | Harris  |
| IRF9542     | -100                 | 0.3                       | 15                 |                    | TO-220AB      | 2SJ380              | B    | Harris  |
| IRF9543     | -60                  | 0.3                       | 15                 |                    | TO-220AB      | 2SJ304              | B    | Harris  |
| IRF9610     | -200                 | 3                         | 1.8                | 20                 | TO-220AB      | 2SJ407              | B    | IR      |
| IRF9610S    | -200                 | 3                         | 1.8                | 20                 | D2PAK         |                     |      | IR      |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package     | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|-------------|---------------------|------|--------|
| IRF9620     | -200                 | 1.5                       | 3.5                | 40                 | TO-220AB    | 2SJ407              | B    | IR     |
| IRF9620S    | -200                 | 1.5                       | 3.5                | 40                 | D2PAK       |                     |      | IR     |
| IRF9621     | -150                 | 1.5                       | 3.5                |                    | TO-220AB    | 2SJ407              | B    | Harris |
| IRF9622     | -200                 | 2.4                       | 3                  |                    | TO-220AB    | 2SJ407              | B    | Harris |
| IRF9623     | -150                 | 2.4                       | 3                  |                    | TO-220AB    | 2SJ407              | B    | Harris |
| IRF9630     | -200                 | 0.8                       | 6.5                | 74                 | TO-220AB    | 2SJ407              | B    | IR     |
| IRF9630S    | -200                 | 0.8                       | 6.5                | 74                 | D2PAK       |                     |      | IR     |
| IRF9631     | -150                 | 0.8                       | 6.5                |                    | TO-220AB    | 2SJ407              | B    | Harris |
| IRF9632     | -200                 | 1.2                       | 5.5                |                    | TO-220AB    | 2SJ407              | B    | Harris |
| IRF9633     | -150                 | 1.2                       | 5.5                |                    | TO-220AB    | 2SJ407              | B    | Harris |
| IRF9640     | -200                 | 0.5                       | 11                 | 125                | TO-220AB    | 2SJ513              | B    | IR     |
| IRF9640S    | -200                 | 0.5                       | 11                 | 125                | D2PAK       | 2SJ513              | B    | IR     |
| IRF9641     | -150                 | 0.5                       | 11                 |                    | TO-220AB    | 2SJ513              | B    | Harris |
| IRF9642     | -200                 | 0.7                       | 9                  |                    | TO-220AB    | 2SJ515              | B    | Harris |
| IRF9643     | -150                 | 0.7                       | 9                  |                    | TO-220AB    | 2SJ515              | B    | Harris |
| IRF9952     | 30/-30               | 0.1/0.25                  | 3.5/-2.3           | 2                  | SOP-8(P&N)  |                     |      | IR     |
| IRF9953     | -30                  | 0.25                      | -2.3               | 2                  | SOP-8(Dual) |                     |      | IR     |
| IRF9956     | 30                   | 0.1                       | 3.5                | 2                  | SOP-8(Dual) |                     |      | IR     |
| IRF9Z14     | -60                  | 0.5                       | 6.7                | 43                 | TO-220AB    | 2SJ438              | B    | IR     |
| IRF9Z14S    | -60                  | 0.5                       | 6.7                | 43                 | D2PAK       | 2SJ377              | B    | IR     |
| IRF9Z24     | -60                  | 0.28                      | 11                 | 60                 | TO-220AB    | 2SJ438              | B    | IR     |
| IRF9Z24N    | -55                  | 0.175                     | -12                | 45                 | TO-220AB    | 2SJ438              | B    | IR     |
| IRF9Z24S    | -60                  | 0.28                      | 11                 | 60                 | D2PAK       | 2SJ312              | A    | IR     |
| IRF9Z34     | -60                  | 0.14                      | 18                 | 88                 | TO-220AB    | 2SJ349              | B    | IR     |
| IRF9Z34N    | -55                  | 0.1                       | -17                | 56                 | TO-220AB    |                     |      | IR     |
| IRF9Z34S    | -60                  | 0.14                      | 18                 | 88                 | D2PAK       | 2SJ401              | A    | IR     |
| IRFBC10LC   | 600                  | 10                        | 1.2                | 36                 | TO-220AB    | 2SK3067             | B    | IR     |
| IRFBC20     | 600                  | 4.4                       | 2.2                | 50                 | TO-220AB    | 2SK3067             | B    | IR     |
| IRFBC20L    | 600                  | 4.4                       | 2.2                | 50                 | TO-262      | 2SK2865             | B    | IR     |
| IRFBC20S    | 600                  | 4.4                       | 2.2                | 50                 | D2PAK       | 2SK2865             | B    | IR     |
| IRFBC30     | 600                  | 2.2                       | 3.6                | 74                 | TO-220AB    | 2SK3085             | A    | IR     |
| IRFBC30L    | 600                  | 2.2                       | 3.6                | 74                 | TO-262      | 2SK2777             | A    | IR     |
| IRFBC30S    | 600                  | 2.2                       | 3.6                | 74                 | D2PAK       | 2SK2777             | A    | IR     |
| IRFBC40     | 600                  | 1.2                       | 6.2                | 125                | TO-220AB    | 2SK2544             | A    | IR     |
| IRFBC40L    | 600                  | 1.2                       | 6.2                | 130                | TO-262      | 2SK2777             | A    | IR     |
| IRFBC40LC   | 600                  | 1.2                       | 6.2                | 125                | TO-220AB    | 2SK2544             | A    | IR     |
| IRFBC40S    | 600                  | 1.2                       | 6.2                | 130                | D2PAK       | 2SK2777             | A    | IR     |
| IRFBC42R    | 600                  | 1.6                       | 5.4                |                    | TO-220AB    | 2SK2544             | A    | Harris |
| IRFBE20     | 800                  | 6.5                       | 1.8                | 54                 | TO-220AB    | 2SK2603             | A    | IR     |
| IRFBE30     | 800                  | 3                         | 4.1                | 125                | TO-220AB    | 2SK2603             | A    | IR     |
| IRFBF20     | 900                  | 8                         | 1.7                | 54                 | TO-220AB    | 2SK2733             | A    | IR     |
| IRFBF20L    | 900                  | 8                         | 1.7                | 54                 | TO-262      | 2SK2845             | A    | IR     |
| IRFBF20S    | 900                  | 8                         | 1.7                | 54                 | D2PAK       |                     |      | IR     |
| IRFBF30     | 900                  | 3.7                       | 3.6                | 125                | TO-220AB    | 2SK2608             | A    | IR     |
| IRFBG20     | 1000                 | 11                        | 1.4                | 54                 | TO-220AB    | 2SK1119             | A    | IR     |
| IRFBG30     | 1000                 | 5                         | 3.1                | 125                | TO-220AB    | 2SK1119             | A    | IR     |
| IRFD014     | 60                   | 0.2                       | 1.7                | 1.3                | DIP         |                     |      | IR     |
| IRFD014     | 60                   | 0.2                       | 1.7                | 1.3                | HEXDIP      |                     |      | IR     |
| IRFD024     | 60                   | 0.1                       | 2.5                | 1.3                | DIP         |                     |      | IR     |
| IRFD024     | 60                   | 0.1                       | 2.5                | 1.3                | HEXDIP      |                     |      | IR     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------|---------------------|------|--------|
| IRFD110     | 100                  | 0.54                      | 1                  | 1.3                | DIP     |                     |      | IR     |
| IRFD110     | 100                  | 0.54                      | 1                  | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD111(R)  | 80                   | 0.6                       | 1                  |                    | DIP     |                     |      | Harris |
| IRFD112(R)  | 100                  | 0.8                       | 0.8                |                    | DIP     |                     |      | Harris |
| IRFD113(R)  | 80                   | 0.8                       | 0.8                |                    | DIP     |                     |      | Harris |
| IRFD120     | 100                  | 0.27                      | 1.3                | 1.3                | DIP     |                     |      | IR     |
| IRFD120     | 100                  | 0.27                      | 1.3                | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD121(R)  | 80                   | 0.3                       | 1.3                |                    | DIP     |                     |      | Harris |
| IRFD122(R)  | 100                  | 0.4                       | 1.1                |                    | DIP     |                     |      | Harris |
| IRFD123(R)  | 80                   | 0.4                       | 1.1                |                    | DIP     |                     |      | Harris |
| IRFD1Z0     | 100                  | 2.4                       | 0.5                | 1.3                | DIP     |                     |      | IR     |
| IRFD1Z1     | 60                   | 2.4                       | 0.5                |                    | DIP     |                     |      | Harris |
| IRFD1Z2     | 100                  | 3.2                       | 0.4                |                    | DIP     |                     |      | Harris |
| IRFD1Z3     | 60                   | 3.2                       | 0.4                |                    | DIP     |                     |      | Harris |
| IRFD210     | 200                  | 1.5                       | 0.6                | 1.3                | DIP     |                     |      | IR     |
| IRFD210     | 200                  | 1.5                       | 0.6                | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD211(R)  | 150                  | 1.5                       | 0.6                |                    | DIP     |                     |      | Harris |
| IRFD212(R)  | 200                  | 2.4                       | 0.45               |                    | DIP     |                     |      | Harris |
| IRFD213(R)  | 150                  | 2.4                       | 0.45               |                    | DIP     |                     |      | Harris |
| IRFD214     | 250                  | 2                         | 0.57               | 1.3                | DIP     |                     |      | IR     |
| IRFD214     | 250                  | 2                         | 0.57               | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD220     | 200                  | 0.8                       | 0.8                | 1                  | DIP     |                     |      | IR     |
| IRFD220     | 200                  | 0.8                       | 0.8                | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD221(R)  | 150                  | 0.8                       | 0.8                |                    | DIP     |                     |      | Harris |
| IRFD222(R)  | 200                  | 1.2                       | 0.7                |                    | DIP     |                     |      | Harris |
| IRFD223(R)  | 150                  | 1.2                       | 0.7                |                    | DIP     |                     |      | Harris |
| IRFD224     | 250                  | 1.1                       | 0.76               | 1.3                | DIP     |                     |      | IR     |
| IRFD224     | 250                  | 1.1                       | 0.76               | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD2Z0     | 200                  | 5                         | 0.32               |                    | DIP     |                     |      | Harris |
| IRFD2Z1     | 150                  | 5                         | 0.32               |                    | DIP     |                     |      | Harris |
| IRFD2Z2     | 200                  | 6.5                       | 0.3                |                    | DIP     |                     |      | Harris |
| IRFD2Z3     | 150                  | 6.5                       | 0.3                |                    | DIP     |                     |      | Harris |
| IRFD310     | 400                  | 3.6                       | 0.42               | 1.3                | DIP     |                     |      | IR     |
| IRFD310     | 400                  | 3.6                       | 0.42               | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD311(R)  | 350                  | 3.6                       | 0.4                |                    | DIP     |                     |      | Harris |
| IRFD312(R)  | 400                  | 5                         | 0.3                |                    | DIP     |                     |      | Harris |
| IRFD313(R)  | 350                  | 5                         | 0.3                |                    | DIP     |                     |      | Harris |
| IRFD320     | 400                  | 1.8                       | 0.6                | 1.3                | DIP     |                     |      | IR     |
| IRFD320     | 400                  | 1.8                       | 0.6                | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD321(R)  | 350                  | 1.8                       | 0.5                |                    | DIP     |                     |      | Harris |
| IRFD322(R)  | 400                  | 2.5                       | 0.4                |                    | DIP     |                     |      | Harris |
| IRFD323(R)  | 350                  | 2.5                       | 0.4                |                    | DIP     |                     |      | Harris |
| IRFD420     | 500                  | 3                         | 0.46               | 1.3                | DIP     |                     |      | IR     |
| IRFD420     | 500                  | 3                         | 0.46               | 1.3                | HEXDIP  |                     |      | IR     |
| IRFD620     | 600                  | 4.4                       | 0.32               | 1.3                | DIP     |                     |      | IR     |
| IRFD9014    | -60                  | 0.5                       | 1.1                | 1.3                | DIP     | 2SJ360              | B    | IR     |
| IRFD9024    | -60                  | 0.28                      | 1.6                | 1.3                | DIP     | 2SJ377              | B    | IR     |
| IRFD9110    | -100                 | 1.2                       | 0.7                | 1.3                | DIP     |                     |      | IR     |
| IRFD9113    | -60                  | 1.6                       | 0.6                |                    | DIP     |                     |      | Harris |
| IRFD9120    | -100                 | 0.6                       | 1                  | 1.3                | DIP     |                     |      | IR     |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFD9123    | -60                  | 0.8                       | 0.8                |                    | DIP      |                     |      | Harris  |
| IRFD9210    | -200                 | 3                         | 0.4                | 1                  | DIP      |                     |      | IR      |
| IRFD9220    | -200                 | 1.5                       | 0.56               | 1                  | DIP      |                     |      | IR      |
| IRFD9223    | -150                 | 2.4                       | 0.45               |                    | DIP      |                     |      | Harris  |
| IRFDC10LC   | 600                  | 10                        | 0.25               | 1.3                | DIP      |                     |      | IR      |
| IRFDC20     | 600                  | 4.4                       | 0.32               | 1.3                | HEXDIP   |                     |      | IR      |
| IRFI1010G   | 55                   | 0.14                      | 43                 | 50                 | TO-220IS |                     |      | IR      |
| IRFI1010N   | 55                   | 0.012                     | 44                 | 47                 | TO-220IS |                     |      | IR      |
| IRFI1310G   | 100                  | 0.04                      | 21                 | 50                 | TO-220IS | 2SK2466             | A    | IR      |
| IRFI1310N   | 100                  | 0.036                     | 22                 | 45                 | TO-220IS |                     |      | IR      |
| IRFI3205    | 55                   | 0.008                     | 56                 | 48                 | TO-220IS | 2SK2985             | A    | IR      |
| IRFI3710    | 100                  | 0.025                     | 28                 | 48                 | TO-220IS |                     |      | IR      |
| IRFI4905    | -55                  | 0.02                      | -41                | 63                 | TO-220IS |                     |      | IR      |
| IRFI510A    | 100                  | 0.4                       | 5.6                | 33                 | I2-PAK   | 2SK2399             | B    | Samsung |
| IRFI510G    | 100                  | 0.54                      | 4.5                | 27                 | TO-220IS | 2SK2399             | B    | IR      |
| IRFI510G    | 100                  | 0.54                      | 4.5                | 27                 | TO-220IS |                     |      | IR      |
| IRFI520A    | 100                  | 0.2                       | 9.2                | 45                 | I2-PAK   | 2SK2399             | B    | Samsung |
| IRFI520G    | 100                  | 0.27                      | 4.2                | 37                 | TO-220IS | 2SK2399             | B    | IR      |
| IRFI520N    | 100                  | 0.2                       | 7.2                | 27                 | TO-220IS | 2SK2399             | B    | IR      |
| IRFI5210    | -100                 | 0.06                      | -20                | 48                 | TO-220IS |                     |      | IR      |
| IRFI530A    | 100                  | 0.11                      | 14                 | 55                 | I2-PAK   | 2SK2789             | A    | Samsung |
| IRFI530G    | 100                  | 0.16                      | 9.7                | 42                 | TO-220IS | 2SK2391             | A    | IR      |
| IRFI530N    | 100                  | 0.11                      | 11                 | 33                 | TO-220IS | 2SK2391             | A    | IR      |
| IRFI540A    | 100                  | 0.052                     | 28                 | 107                | I2-PAK   | 2SK2466             | B    | Samsung |
| IRFI540G    | 100                  | 0.077                     | 17                 | 48                 | TO-220IS | 2SK2391             | A    | IR      |
| IRFI540N    | 100                  | 0.052                     | 18                 | 42                 | TO-220IS | 2SK2466             | A    | IR      |
| IRFI550A    | 100                  | 0.04                      | 40                 | 167                | I2-PAK   | 2SK2466             | B    | Samsung |
| IRFI610A    | 200                  | 1.5                       | 3.3                | 38                 | I2-PAK   | 2SK2920             | B    | Samsung |
| IRFI614A    | 250                  | 2                         | 2.8                | 40                 | I2-PAK   |                     |      | Samsung |
| IRFI614G    | 250                  | 2                         | 2.1                | 23                 | TO-220IS | 2SK2840             | A    | IR      |
| IRFI620A    | 200                  | 0.8                       | 5                  | 47                 | I2-PAK   | 2SK2920             | B    | Samsung |
| IRFI620G    | 200                  | 0.8                       | 4.1                | 30                 | TO-220IS | 2SK2381             | A    | IR      |
| IRFI624A    | 250                  | 1.1                       | 4.1                | 49                 | I2-PAK   |                     |      | Samsung |
| IRFI624G    | 250                  | 1.1                       | 3.4                | 30                 | TO-220IS | 2SK2840             | A    | IR      |
| IRFI630A    | 200                  | 0.4                       | 9                  | 72                 | I2-PAK   | 2SK2401             | A    | Samsung |
| IRFI630G    | 200                  | 0.4                       | 5.9                | 35                 | TO-220IS | 2SK2350             | A    | IR      |
| IRFI634A    | 250                  | 0.45                      | 8.1                | 74                 | I2-PAK   | 2SK2598             | A    | Samsung |
| IRFI634G    | 250                  | 0.45                      | 5.6                | 35                 | TO-220IS | 2SK2417             | A    | IR      |
| IRFI640A    | 200                  | 0.18                      | 18                 | 139                | I2-PAK   | 2SK2401             | A    | Samsung |
| IRFI640G    | 200                  | 0.18                      | 9.8                | 40                 | TO-220IS | 2SK2382             | A    | IR      |
| IRFI644A    | 250                  | 0.28                      | 14                 | 139                | I2-PAK   | 2SK2598             | A    | Samsung |
| IRFI644G    | 250                  | 0.28                      | 7.9                | 40                 | TO-220IS | 2SK2508             | A    | IR      |
| IRFI710A    | 400                  | 3.6                       | 2                  | 36                 | I2-PAK   | 2SK2838             | A    | Samsung |
| IRFI720A    | 400                  | 1.8                       | 3.3                | 46                 | I2-PAK   | 2SK2838             | A    | Samsung |
| IRFI720G    | 400                  | 1.8                       | 2.6                | 30                 | TO-220IS | 2SK2679             | A    | IR      |
| IRFI730A    | 400                  | 1                         | 5.5                | 73                 | I2-PAK   | 2SK2838             | A    | Samsung |
| IRFI730G    | 400                  | 1                         | 3.7                | 35                 | TO-220IS | 2SK2679             | A    | IR      |
| IRFI734G    | 450                  | 1.2                       | 3.4                | 35                 | TO-220IS | 2SK2543             | A    | IR      |
| IRFI740A    | 400                  | 0.55                      | 10                 | 134                | I2-PAK   | 2SK2949             | A    | Samsung |
| IRFI740G    | 400                  | 0.55                      | 5.4                | 40                 | TO-220IS | 2SK2952             | A    | IR      |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFI740GLC  | 400                  | 0.55                      | 6                  | 40                 | TO-220IS | 2SK2952             | A    | IR      |
| IRFI744G    | 450                  | 0.63                      | 4.9                | 40                 | TO-220IS | 2SK2952             | A    | IR      |
| IRFI820A    | 500                  | 3                         | 2.5                | 49                 | I2-PAK   |                     |      | Samsung |
| IRFI820G    | 500                  | 3                         | 2.1                | 30                 | TO-220IS | 2SK2862             | A    | IR      |
| IRFI830A    | 500                  | 1.5                       | 4.5                | 73                 | I2-PAK   | 2SK2991             | A    | Samsung |
| IRFI830G    | 500                  | 1.5                       | 3.1                | 35                 | TO-220IS | 2SK2662             | A    | IR      |
| IRFI840A    | 500                  | 0.85                      | 8                  | 134                | I2-PAK   | 2SK2776             | A    | Samsung |
| IRFI840G    | 500                  | 0.85                      | 4.6                | 40                 | TO-220IS | 2SK2543             | A    | IR      |
| IRFI840GLC  | 500                  | 0.85                      | 4.8                | 40                 | TO-220IS | 2SK2543             | A    | IR      |
| IRFI9520G   | -100                 | 0.6                       | 5.2                | 37                 | TO-220IS |                     |      | IR      |
| IRFI9530G   | -100                 | 0.3                       | 7.7                | 42                 | TO-220IS | 2SJ380              | A    | IR      |
| IRFI9540G   | -100                 | 0.2                       | 11                 | 48                 | TO-220IS | 2SJ380              | A    | IR      |
| IRFI9620G   | -200                 | 1.5                       | 3                  | 30                 | TO-220IS | 2SJ407              | A    | IR      |
| IRFI9630G   | -200                 | 0.8                       | 4.3                | 35                 | TO-220IS | 2SJ407              | A    | IR      |
| IRFI9634G   | -250                 | 1                         | -4.1               | 35                 | TO-220IS | 2SJ512              | A    | IR      |
| IRFI9640G   | -200                 | 0.5                       | 6.1                | 40                 | TO-220IS | 2SJ513              | A    | IR      |
| IRFI9Z14G   | -60                  | 0.5                       | 5.3                | 27                 | TO-220IS | 2SJ438              | A    | IR      |
| IRFI9Z24G   | -60                  | 0.28                      | 8.5                | 37                 | TO-220IS | 2SJ438              | A    | IR      |
| IRFI9Z24N   | -55                  | 0.175                     | -9.5               | 29                 | TO-220IS | 2SJ438              | A    | IR      |
| IRFI9Z34G   | -60                  | 0.14                      | 12                 | 42                 | TO-220IS | 2SJ304              | A    | IR      |
| IRFI9Z34N   | -55                  | 0.1                       | -14                | 37                 | TO-220IS |                     |      | IR      |
| IRFIBC20G   | 600                  | 4.4                       | 1.7                | 30                 | TO-220IS | 2SK3067             | A    | IR      |
| IRFIBC30G   | 600                  | 2.2                       | 2.5                | 35                 | TO-220IS | 2SK2750             | A    | IR      |
| IRFIBC40G   | 600                  | 1.2                       | 3.5                | 40                 | TO-220IS | 2SK2545             | A    | IR      |
| IRFIBC40GLC | 600                  | 1.2                       | 4                  | 40                 | TO-220IS | 2SK2545             | A    | IR      |
| IRFIBE20G   | 800                  | 6.5                       | 1.4                | 30                 | TO-220IS | 2SK2603             | B    | IR      |
| IRFIBE30G   | 800                  | 3                         | 2.1                | 35                 | TO-220IS | 2SK2603             | B    | IR      |
| IRFIBF20G   | 900                  | 8                         | 1.2                | 30                 | TO-220IS | 2SK2733             | B    | IR      |
| IRFIBF30G   | 900                  | 3.7                       | 1.9                | 35                 | TO-220IS | 2SK2700             | B    | IR      |
| IRFIP044    | 60                   | 0.028                     | 43                 | 100                | TO-247IS | 2SK2233             | B    | IR      |
| IRFIP054    | 60                   | 0.014                     | 64                 | 120                | TO-247IS | 2SK2313             | B    | IR      |
| IRFIP140    | 100                  | 0.077                     | 23                 | 100                | TO-247IS | 2SK2391             | B    | IR      |
| IRFIP150    | 100                  | 0.055                     | 31                 | 120                | TO-247IS | 2SK2466             | B    | IR      |
| IRFIP240    | 200                  | 0.18                      | 14                 | 83                 | TO-247IS | 2SK2382             | B    | IR      |
| IRFIP244    | 250                  | 0.28                      | 11                 | 83                 | TO-247IS | 2SK2508             | B    | IR      |
| IRFIP250    | 200                  | 0.085                     | 22                 | 96                 | TO-247IS | 2SK2995             | A    | IR      |
| IRFIP254    | 250                  | 0.14                      | 17                 | 96                 | TO-247IS | 2SK2995             | A    | IR      |
| IRFIP340    | 400                  | 0.55                      | 8                  | 83                 | TO-247IS | 2SK2952             | B    | IR      |
| IRFIP350    | 400                  | 0.3                       | 11                 | 96                 | TO-247IS | 2SK2917             | A    | IR      |
| IRFIP440    | 500                  | 0.85                      | 6.4                | 83                 | TO-247IS | 2SK2600             | A    | IR      |
| IRFIP448    | 500                  | 0.6                       | 7.4                | 89                 | TO-247IS | 2SK2600             | A    | IR      |
| IRFIP450    | 500                  | 0.4                       | 10                 | 96                 | TO-247IS | 2SK2916             | A    | IR      |
| IRFIP9140   | -100                 | 0.2                       | 15                 | 100                | TO-247IS | 2SJ412              | B    | IR      |
| IRFIP9240   | -200                 | 0.5                       | 8.9                | 83                 | TO-247IS | 2SJ513              | B    | IR      |
| IRFIZ14A    | 60                   | 0.14                      | 10                 | 30                 | I2-PAK   | 2SK2231             | B    | Samsung |
| IRFIZ14G    | 60                   | 0.2                       | 8                  | 27                 | TO-220IS | 2SK2231             | B    | IR      |
| IRFIZ24A    | 60                   | 0.07                      | 17                 | 44                 | I2-PAK   | 2SK2311             | A    | Samsung |
| IRFIZ24E    | 60                   | 0.071                     | 14                 | 29                 | TO-220IS | 2SK2232             | A    | IR      |
| IRFIZ24G    | 60                   | 0.1                       | 14                 | 37                 | TO-220IS | 2SK2232             | A    | IR      |
| IRFIZ24N    | 55                   | 0.07                      | 13                 | 26                 | TO-220IS | 2SK2232             | A    | IR      |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFIZ34A    | 60                   | 0.04                      | 30                 | 77                 | I2-PAK   | 2SK2311             | A    | Samsung |
| IRFIZ34E    | 60                   | 0.042                     | 21                 | 37                 | TO-220IS | 2SK2232             | A    | IR      |
| IRFIZ34G    | 60                   | 0.05                      | 20                 | 42                 | TO-220IS | 2SK2232             | A    | IR      |
| IRFIZ34N    | 55                   | 0.04                      | 19                 | 31                 | TO-220IS | 2SK2232             | A    | IR      |
| IRFIZ44A    | 60                   | 0.024                     | 50                 | 126                | I2-PAK   | 2SK2376             | A    | Samsung |
| IRFIZ44G    | 60                   | 0.028                     | 30                 | 48                 | TO-220IS | 2SK2385             | A    | IR      |
| IRFIZ44N    | 55                   | 0.024                     | 28                 | 38                 | TO-220IS | 2SK2385             | A    | IR      |
| IRFIZ46N    | 55                   | 0.02                      | 31                 | 40                 | TO-220IS | 2SK2312             | A    | IR      |
| IRFIZ48G    | 60                   | 0.018                     | 37                 | 50                 | TO-220IS | 2SK2312             | A    | IR      |
| IRFIZ48N    | 55                   | 0.016                     | 36                 | 42                 | TO-220IS | 2SK2312             | A    | IR      |
| IRFL014     | 60                   | 0.2                       | 2.7                | 3.1                | SOT-223  | 2SK2741             | A    | IR      |
| IRFL110     | 100                  | 0.54                      | 1.5                | 3.1                | SOT-223  | 2SK2742             | A    | IR      |
| IRFL210     | 200                  | 1.5                       | 0.96               | 3.1                | SOT-223  |                     |      | IR      |
| IRFL214     | 250                  | 2                         | 0.79               | 3.1                | SOT-223  |                     |      | IR      |
| IRFL4105    | 55                   | 0.045                     | 3.7                | 2.1                | SOT-223  |                     |      | IR      |
| IRFL4310    | 100                  | 0.2                       | 1.6                | 2.1                | SOT-223  | 2SK2742             | A    | IR      |
| IRFL9014    | -60                  | 0.5                       | 1.8                | 3.1                | SOT-223  |                     |      | IR      |
| IRFL9110    | -100                 | 1.2                       | 1.1                | 3.1                | SOT-223  |                     |      | IR      |
| IRFM014A    | 60                   | 0.14                      | 2.8                | 2.1                | SOT-223  | 2SK2741             | A    | Samsung |
| IRFM110A    | 100                  | 0.4                       | 1.5                | 2                  | SOT-223  | 2SK2742             | A    | Samsung |
| IRFM120A    | 100                  | 0.2                       | 2.3                | 2.4                | SOT-223  | 2SK2742             | A    | Samsung |
| IRFM210A    | 200                  | 1.5                       | 0.77               | 2                  | SOT-223  |                     |      | Samsung |
| IRFM214A    | 250                  | 2                         | 0.64               | 2.1                | SOT-223  |                     |      | Samsung |
| IRFM220A    | 200                  | 0.8                       | 1.13               | 2.4                | SOT-223  |                     |      | Samsung |
| IRFM224A    | 250                  | 1.1                       | 0.92               | 2.5                | SOT-223  |                     |      | Samsung |
| IRFP044     | 60                   | 0.028                     | 57                 | 180                | TO-247   | 2SK2233             | A    | IR      |
| IRFP044N    | 55                   | 0.02                      | 49                 | 100                | TO-247   | 2SK2173             | A    | IR      |
| IRFP048     | 60                   | 0.018                     | 70                 | 190                | TO-247   | 2SK2173             | A    | IR      |
| IRFP048N    | 55                   | 0.016                     | 62                 | 130                | TO-247   | 2SK2173             | A    | IR      |
| IRFP054     | 60                   | 0.014                     | 70                 | 230                | TO-247   | 2SK2313             | A    | IR      |
| IRFP054N    | 55                   | 0.012                     | 72                 | 130                | TO-247   | 2SK2313             | A    | IR      |
| IRFP064     | 60                   | 0.009                     | 70                 | 300                | TO-247   | 2SK2313             | A    | IR      |
| IRFP064N    | 55                   | 0.008                     | 98                 | 150                | TO-247   | 2SK2987             | A    | IR      |
| IRFP140     | 100                  | 0.077                     | 31                 | 180                | TO-247   | 2SK2466             | B    | IR      |
| IRFP140A    | 100                  | 0.052                     | 31                 | 131                | TO-3P    | 2SK2466             | B    | Samsung |
| IRFP140N    | 100                  | 0.052                     | 27                 | 94                 | TO-247   | 2SK2466             | B    | IR      |
| IRFP141R    | 80                   | 0.077                     | 31                 |                    | TO-247   | 2SK2466             | B    | Harris  |
| IRFP142R    | 100                  | 0.099                     | 27                 |                    | TO-247   | 2SK2314             | B    | Harris  |
| IRFP143R    | 80                   | 0.099                     | 27                 |                    | TO-247   | 2SK2466             | B    | Harris  |
| IRFP150     | 100                  | 0.055                     | 41                 | 230                | TO-247   | 2SK2466             | B    | IR      |
| IRFP150A    | 100                  | 0.04                      | 43                 | 193                | TO-3P    | 2SK2466             | B    | Samsung |
| IRFP150N    | 100                  | 0.036                     | 39                 | 140                | TO-247   | 2SK1381             | A    | IR      |
| IRFP151(R)  | 60                   | 0.055                     | 40                 |                    | TO-247   | 2SK2398             | A    | Harris  |
| IRFP152(R)  | 100                  | 0.085                     | 34                 |                    | TO-247   | 2SK2314             | B    | Harris  |
| IRFP153(R)  | 60                   | 0.085                     | 34                 |                    | TO-247   | 2SK2232             | B    | Harris  |
| IRFP240     | 200                  | 0.18                      | 20                 | 150                | TO-247   | 2SK2382             | B    | IR      |
| IRFP240A    | 200                  | 0.18                      | 20                 | 180                | TO-3P    | 2SK2382             | B    | Samsung |
| IRFP241(R)  | 150                  | 0.18                      | 18                 |                    | TO-247   | 2SK2382             | B    | Harris  |
| IRFP242R    | 200                  | 0.22                      | 16                 |                    | TO-247   | 2SK2382             | B    | Harris  |
| IRFP243R    | 150                  | 0.22                      | 16                 |                    | TO-247   | 2SK2382             | B    | Harris  |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------|---------------------|------|---------|
| IRFP244     | 250                  | 0.28                      | 15                 | 150                | TO-247  | 2SK2508             | B    | IR      |
| IRFP244A    | 250                  | 0.28                      | 16                 | 180                | TO-3P   | 2SK2508             | B    | Samsung |
| IRFP245     | 250                  | 0.28                      | 14                 |                    | TO-247  | 2SK2508             | B    | Harris  |
| IRFP246     | 275                  | 0.17                      | 20                 |                    | TO-247  | 2SK1486             | B    | Harris  |
| IRFP247     | 275                  | 0.28                      | 14                 |                    | TO-247  |                     |      | Harris  |
| IRFP250     | 200                  | 0.085                     | 30                 | 190                | TO-247  | 2SK3176             | A    | IR      |
| IRFP250A    | 200                  | 0.085                     | 32                 | 204                | TO-3P   | 2SK3176             | A    | Samsung |
| IRFP251(R)  | 150                  | 0.085                     | 33                 |                    | TO-247  | 2SK2967             | A    | Harris  |
| IRFP252(R)  | 200                  | 0.085                     | 30                 |                    | TO-247  | 2SK3176             | A    | Harris  |
| IRFP253(R)  | 150                  | 0.12                      | 27                 |                    | TO-247  | 2SK2882             | B    | Harris  |
| IRFP254     | 250                  | 0.14                      | 23                 | 23                 | TO-247  | 2SK2967             | A    | IR      |
| IRFP254A    | 250                  | 0.14                      | 25                 | 221                | TO-3P   | 2SK2967             | A    | Samsung |
| IRFP255     | 250                  | 0.14                      | 22                 |                    | TO-247  | 2SK2967             | A    | Harris  |
| IRFP256     | 275                  | 0.14                      | 23                 |                    | TO-247  | 2SK1486             | B    | Harris  |
| IRFP257     | 275                  | 0.14                      | 22                 |                    | TO-247  | 2SK1486             | B    | Harris  |
| IRFP260     | 200                  | 0.055                     | 46                 | 280                | TO-247  | 2SK3176             | A    | IR      |
| IRFP264     | 250                  | 0.075                     | 38                 | 280                | TO-247  | 2SK2967             | A    | IR      |
| IRFP340     | 400                  | 0.55                      | 11                 | 150                | TO-247  | 2SK2841             | B    | IR      |
| IRFP340A    | 400                  | 0.55                      | 11                 | 162                | TO-3P   | 2SK2841             | B    | Samsung |
| IRFP341R    | 350                  | 0.55                      | 11                 |                    | TO-247  | 2SK2841             | B    | Harris  |
| IRFP342R    | 400                  | 0.8                       | 8.3                |                    | TO-247  | 2SK2841             | B    | Harris  |
| IRFP343R    | 350                  | 0.8                       | 8.7                |                    | TO-247  | 2SK2841             | B    | Harris  |
| IRFP344     | 450                  | 0.63                      | 9.5                | 150                | TO-247  | 2SK2601             | A    | IR      |
| IRFP350     | 400                  | 0.3                       | 16                 | 190                | TO-247  | 2SK2837             | A    | IR      |
| IRFP350A    | 400                  | 0.3                       | 17                 | 202                | TO-3P   | 2SK2837             | A    | Samsung |
| IRFP350LC   | 400                  | 0.3                       | 18                 | 190                | TO-247  | 2SK2837             | A    | IR      |
| IRFP351(R)  | 350                  | 0.3                       | 15                 |                    | TO-247  | 2SK2837             | A    | Harris  |
| IRFP352(R)  | 400                  | 0.4                       | 14                 |                    | TO-247  | 2SK2698             | A    | Harris  |
| IRFP353(R)  | 350                  | 0.4                       | 14                 |                    | TO-247  | 2SK2698             | A    | Harris  |
| IRFP354     | 450                  | 0.35                      | 14                 | 190                | TO-247  | 2SK2698             | A    | IR      |
| IRFP360     | 400                  | 0.2                       | 23                 | 280                | TO-247  | 2SK1544             | B    | IR      |
| IRFP360LC   | 400                  | 0.2                       | 23                 | 280                | TO-247  | 2SK1544             | B    | IR      |
| IRFP362     | 400                  | 0.25                      | 20                 |                    | TO-247  | 2SK2837             | A    | Harris  |
| IRFP3710    | 100                  | 0.028                     | 51                 | 180                | TO-247  | 2SK1381             | A    | IR      |
| IRFP440     | 500                  | 0.85                      | 8.8                | 150                | TO-247  | 2SK2601             | A    | IR      |
| IRFP440A    | 500                  | 0.85                      | 8.5                | 162                | TO-3P   | 2SK2601             | A    | Samsung |
| IRFP441R    | 450                  | 0.85                      | 8                  |                    | TO-247  | 2SK2601             | A    | Harris  |
| IRFP442(R)  | 500                  | 1.1                       | 7                  |                    | TO-247  | 2SK2600             | B    | Harris  |
| IRFP443R    | 450                  | 1.1                       | 7                  |                    | TO-247  | 2SK2600             | B    | Harris  |
| IRFP448     | 500                  | 0.6                       | 11                 | 180                | TO-247  | 2SK2601             | A    | IR      |
| IRFP450     | 500                  | 0.4                       | 14                 | 190                | TO-247  | 2SK2698             | A    | IR      |
| IRFP450A    | 500                  | 0.4                       | 14                 | 205                | TO-3P   | 2SK2698             | A    | Samsung |
| IRFP450LC   | 500                  | 0.4                       | 16                 | 190                | TO-247  | 2SK2698             | A    | IR      |
| IRFP451(R)  | 450                  | 0.4                       | 14                 |                    | TO-247  | 2SK2698             | A    | Harris  |
| IRFP452(R)  | 500                  | 0.5                       | 12                 |                    | TO-247  | 2SK2601             | A    | Harris  |
| IRFP453(R)  | 450                  | 0.5                       | 12                 |                    | TO-247  | 2SK2601             | A    | Harris  |
| IRFP460     | 500                  | 0.27                      | 20                 | 280                | TO-247  | 2SK2837             | A    | IR      |
| IRFP460LC   | 500                  | 0.27                      | 20                 | 280                | TO-247  | 2SK2837             | A    | IR      |
| IRFP462     | 500                  | 0.35                      | 17                 |                    | TO-247  | 2SK2837             | A    | Harris  |
| IRFP9140    | -100                 | 0.2                       | 21                 | 180                | TO-247  | 2SJ464              | B    | IR      |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------|---------------------|------|---------|
| IRFP9140N   | -100                 | 0.117                     | -21                | 120                | TO-247  | 2SJ464              | B    | IR      |
| IRFP9141    | -50                  | 0.2                       | 19                 |                    | TO-247  | 2SJ401              | B    | Harris  |
| IRFP9142    | -100                 | 0.3                       | 16                 |                    | TO-247  | 2SJ412              | B    | Harris  |
| IRFP9143    | -50                  | 0.3                       | 16                 |                    | TO-247  | 2SJ401              | B    | Harris  |
| IRFP9150    | -100                 | 0.15                      | 25                 |                    | TO-247  | 2SJ464              | A    | Harris  |
| IRFP9151    | -50                  | 0.15                      | 25                 |                    | TO-247  | 2SJ402              | B    | Harris  |
| IRFP9240    | -200                 | 0.5                       | 12                 | 150                | TO-247  | 2SJ513              | B    | IR      |
| IRFP9241    | -150                 | 0.5                       | 12                 |                    | TO-247  | 2SJ513              | B    | Harris  |
| IRFP9242    | -200                 | 0.7                       | 10                 |                    | TO-247  | 2SJ515              | B    | Harris  |
| IRFP9243    | -150                 | 0.7                       | 10                 |                    | TO-247  | 2SJ515              | B    | Harris  |
| IRFPC30     | 600                  | 2.2                       | 4.3                | 100                | TO-247  | 2SK2602             | A    | IR      |
| IRFPC40     | 600                  | 1.2                       | 6.8                | 150                | TO-247  | 2SK2602             | A    | IR      |
| IRFPC42R    | 600                  | 1.6                       | 5.9                |                    | TO-247  | 2SK2602             | A    | Harris  |
| IRFPC48     | 600                  | 0.82                      | 8.9                | 170                | TO-247  | 2SK2699             | A    | IR      |
| IRFPC50     | 600                  | 0.6                       | 11                 | 180                | TO-247  | 2SK2699             | A    | IR      |
| IRFPC50LC   | 600                  | 0.6                       | 13                 | 180                | TO-247  | 2SK2699             | A    | IR      |
| IRFPC60     | 600                  | 0.4                       | 16                 | 280                | TO-247  | 2SK2915             | A    | IR      |
| IRFPC60LC   | 600                  | 0.4                       | 16                 | 280                | TO-247  | 2SK2915             | A    | IR      |
| IRFPE30     | 800                  | 3                         | 4.1                | 125                | TO-247  | 2SK2603             | B    | IR      |
| IRFPE40     | 800                  | 2                         | 5.4                | 150                | TO-247  | 2SK2604             | A    | IR      |
| IRFPE50     | 800                  | 1.2                       | 7.8                | 190                | TO-247  | 2SK2607             | A    | IR      |
| IRFPF30     | 900                  | 3.7                       | 3.6                | 125                | TO-247  | 2SK2719             | A    | IR      |
| IRFPF40     | 900                  | 2.5                       | 4.7                | 150                | TO-247  | 2SK2610             | A    | IR      |
| IRFPF50     | 900                  | 1.6                       | 6.7                | 190                | TO-247  | 2SK2611             | A    | IR      |
| IRFPG30     | 1000                 | 5                         | 3.1                | 125                | TO-247  | 2SK1359             | A    | IR      |
| IRFPG40     | 1000                 | 3.5                       | 4.3                | 150                | TO-247  | 2SK1359             | A    | IR      |
| IRFPG42     | 1000                 | 4.2                       | 3.9                |                    | TO-247  | 2SK1359             | A    | Harris  |
| IRFPG50     | 1000                 | 2                         | 6.1                | 190                | TO-247  | 2SK1365             | A    | IR      |
| IRFR014     | 60                   | 0.2                       | 7.7                | 25                 | D-PAK   | 2SK2231             | A    | IR      |
| IRFR014A    | 60                   | 0.14                      | 8.2                | 18                 | D-PAK   | 2SK2231             | A    | Samsung |
| IRFR024     | 60                   | 0.1                       | 14                 | 42                 | D-PAK   | 2SK2782             | A    | IR      |
| IRFR024A    | 60                   | 0.07                      | 15                 | 30                 | D-PAK   | 2SK2782             | A    | Samsung |
| IRFR024N    | 55                   | 0.075                     | 16                 | 38                 | D-PAK   | 2SK2782             | A    | IR      |
| IRFR034A    | 60                   | 0.04                      | 23                 | 40                 | D-PAK   |                     |      | Samsung |
| IRFR110     | 100                  | 0.54                      | 4.3                | 25                 | D-PAK   | 2SK2201             | A    | IR      |
| IRFR110A    | 100                  | 0.4                       | 4.7                | 20                 | D-PAK   | 2SK2201             | A    | Samsung |
| IRFR120     | 100                  | 0.27                      | 7.7                | 42                 | D-PAK   | 2SK2399             | A    | IR      |
| IRFR1205    | 55                   | 0.027                     | 37                 | 69                 | D-PAK   |                     |      | IR      |
| IRFR120A    | 100                  | 0.2                       | 8.4                | 32                 | D-PAK   | 2SK2399             | A    | Samsung |
| IRFR120N    | 100                  | 0.21                      | 9.1                | 39                 | D-PAK   | 2SK2399             | A    | IR      |
| IRFR121     | 80                   | 0.27                      | 8.4                |                    | TO-252  | 2SK2399             | A    | Harris  |
| IRFR130A    | 100                  | 0.11                      | 13                 | 41                 | D-PAK   |                     |      | Samsung |
| IRFR210     | 200                  | 1.5                       | 2.6                | 25                 | D-PAK   | 2SK2920             | A    | IR      |
| IRFR210A    | 200                  | 1.5                       | 2.7                | 26                 | D-PAK   | 2SK2920             | A    | Samsung |
| IRFR214     | 250                  | 2                         | 2.2                | 25                 | D-PAK   |                     |      | IR      |
| IRFR214A    | 250                  | 2                         | 2.2                | 25                 | D-PAK   |                     |      | Samsung |
| IRFR220     | 200                  | 0.8                       | 4.8                | 42                 | D-PAK   | 2SK2920             | A    | IR      |
| IRFR220A    | 200                  | 0.8                       | 4.6                | 40                 | D-PAK   | 2SK2920             | A    | Samsung |
| IRFR221     | 150                  | 0.8                       | 4.6                |                    | TO-252  | 2SK2920             | A    | Harris  |
| IRFR222     | 200                  | 1.2                       | 3.8                |                    | TO-252  | 2SK2920             | A    | Harris  |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFR224     | 250                  | 1.1                       | 3.8                | 42                 | D-PAK    |                     |      | IR      |
| IRFR224A    | 250                  | 1.1                       | 3.8                | 42                 | D-PAK    |                     |      | Samsung |
| IRFR230A    | 200                  | 0.4                       | 7.5                | 50                 | D-PAK    |                     |      | Samsung |
| IRFR234A    | 250                  | 0.45                      | 6.6                | 49                 | D-PAK    |                     |      | Samsung |
| IRFR310     | 400                  | 3.6                       | 1.7                | 25                 | D-PAK    | 2SK2599             | B    | IR      |
| IRFR310A    | 400                  | 3.6                       | 1.7                | 26                 | D-PAK    | 2SK2599             | B    | Samsung |
| IRFR320     | 400                  | 1.8                       | 3.1                | 42                 | D-PAK    |                     |      | IR      |
| IRFR320A    | 400                  | 1.8                       | 3.1                | 41                 | D-PAK    |                     |      | Samsung |
| IRFR321     | 350                  | 1.8                       | 3.1                |                    | TO-252   | 2SK2679             | B    | Harris  |
| IRFR322     | 400                  | 2.5                       | 2.6                |                    | TO-252   | 2SK2599             | B    | Harris  |
| IRFR3303    | 30                   | 0.031                     | 33                 | 57                 | D-PAK    |                     |      | IR      |
| IRFR330A    | 400                  | 1                         | 4.5                | 48                 | D-PAK    |                     |      | Samsung |
| IRFR3910    | 100                  | 0.11                      | 15                 | 52                 | D-PAK    |                     |      | IR      |
| IRFR410     | 500                  | 7                         | 1.5                |                    | D-PAK    | 2SK2865             | A    | Harris  |
| IRFR4105    | 55                   | 0.045                     | 25                 | 48                 | D-PAK    | 2SK2782             | A    | IR      |
| IRFR420     | 500                  | 3                         | 2.4                | 42                 | D-PAK    | 2SK2599             | B    | IR      |
| IRFR420A    | 500                  | 3                         | 2.3                | 41                 | D-PAK    | 2SK2599             | B    | Samsung |
| IRFR421     | 450                  | 3                         | 2.5                |                    | TO-252   | 2SK2599             | B    | Harris  |
| IRFR422     | 500                  | 4                         | 2.2                |                    | TO-252   | 2SK2599             | B    | Harris  |
| IRFR430A    | 500                  | 1.5                       | 3.5                | 48                 | D-PAK    |                     |      | Samsung |
| IRFR5305    | -55                  | 0.065                     | -28                | 89                 | D-PAK    |                     |      | IR      |
| IRFR5505    | -55                  | 0.11                      | -18                | 57                 | D-PAK    |                     |      | IR      |
| IRFR9014    | -60                  | 0.5                       | 5.1                | 25                 | D-PAK    | 2SJ377              | A    | IR      |
| IRFR9024    | -60                  | 0.28                      | 8.8                | 42                 | D-PAK    | 2SJ377              | A    | IR      |
| IRFR9110    | -100                 | 1.2                       | 3.1                | 25                 | D-PAK    |                     |      | IR      |
| IRFR9120    | -100                 | 0.6                       | 5.6                | 42                 | D-PAK    |                     |      | IR      |
| IRFR9120N   | -100                 | 0.48                      | -6.5               | 39                 | D-PAK    |                     |      | IR      |
| IRFR9210    | -200                 | 3                         | 1.9                | 25                 | D-PAK    |                     |      | IR      |
| IRFR9214    | -250                 | 3                         | -2.7               | 50                 | D-PAK    | 2SJ512              | B    | IR      |
| IRFR9220    | -200                 | 1.5                       | 3.6                | 42                 | D-PAK    |                     |      | IR      |
| IRFR9310    | -400                 | 7                         | -1.8               | 50                 | D-PAK    |                     |      | IR      |
| IRFRC20     | 600                  | 4.4                       | 2                  | 42                 | D-PAK    | 2SK2865             | A    | IR      |
| IRFS140A    | 100                  | 0.052                     | 23                 | 72                 | TO-3PIS  | 2SK2466             | B    | Samsung |
| IRFS150A    | 100                  | 0.04                      | 31                 | 100                | TO-3PIS  | 2SK2466             | B    | Samsung |
| IRFS1Z0     | 100                  | 2.4                       | 0.82               | 3.6                | SOT-89   | 2SK2963             | A    | IR      |
| IRFS240A    | 200                  | 0.18                      | 12.8               | 73                 | TO-3PIS  | 2SK2382             | B    | Samsung |
| IRFS244A    | 250                  | 0.28                      | 10.2               | 73                 | TO-3PIS  | 2SK2508             | B    | Samsung |
| IRFS250A    | 200                  | 0.085                     | 21.3               | 90                 | TO-3PIS  | 2SK2995             | A    | Samsung |
| IRFS254A    | 250                  | 0.14                      | 16                 | 90                 | TO-3PIS  | 2SK2995             | A    | Samsung |
| IRFS340A    | 400                  | 0.55                      | 8                  | 85                 | TO-3PIS  | 2SK2952             | B    | Samsung |
| IRFS350A    | 400                  | 0.3                       | 11.5               | 92                 | TO-3PIS  | 2SK2917             | A    | Samsung |
| IRFS440A    | 500                  | 0.85                      | 6.2                | 85                 | TO-3PIS  | 2SK2600             | A    | Samsung |
| IRFS450A    | 500                  | 0.4                       | 9.6                | 96                 | TO-3PIS  | 2SK2916             | A    | Samsung |
| IRFS510A    | 100                  | 0.4                       | 4.5                | 21                 | TO-220IS | 2SK2399             | B    | Samsung |
| IRFS520A    | 100                  | 0.2                       | 7.2                | 28                 | TO-220IS | 2SK2399             | B    | Samsung |
| IRFS530A    | 100                  | 0.11                      | 10.7               | 32                 | TO-220IS | 2SK2391             | A    | Samsung |
| IRFS540A    | 100                  | 0.052                     | 17                 | 39                 | TO-220IS | 2SK2466             | A    | Samsung |
| IRFS550A    | 100                  | 0.04                      | 21                 | 46                 | TO-220IS | 2SK2466             | A    | Samsung |
| IRFS610A    | 200                  | 1.5                       | 2.5                | 22                 | TO-220IS | 2SK2381             | A    | Samsung |
| IRFS614A    | 250                  | 2                         | 2.1                | 22                 | TO-220IS | 2SK2840             | A    | Samsung |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFS620A    | 200                  | 0.8                       | 4.1                | 32                 | TO-220IS | 2SK2381             | A    | Samsung |
| IRFS624A    | 250                  | 1.1                       | 3.4                | 34                 | TO-220IS | 2SK2840             | A    | Samsung |
| IRFS630A    | 200                  | 0.4                       | 6.5                | 38                 | TO-220IS | 2SK2350             | A    | Samsung |
| IRFS634A    | 250                  | 0.45                      | 5.8                | 38                 | TO-220IS | 2SK2417             | A    | Samsung |
| IRFS640A    | 200                  | 0.18                      | 9.8                | 43                 | TO-220IS | YTAF630             | A    | Samsung |
| IRFS644A    | 250                  | 0.28                      | 7.9                | 43                 | TO-220IS | 2SK2508             | A    | Samsung |
| IRFS650A    | 200                  | 0.085                     | 15.8               | 50                 | TO-220IS |                     |      | Samsung |
| IRFS654A    | 250                  | 0.14                      | 12                 | 50                 | TO-220IS |                     |      | Samsung |
| IRFS710A    | 400                  | 3.6                       | 1.6                | 23                 | TO-220IS | 2SK2862             | B    | Samsung |
| IRFS720A    | 400                  | 1.8                       | 2.8                | 33                 | TO-220IS | 2SK2679             | A    | Samsung |
| IRFS730A    | 400                  | 1                         | 3.9                | 38                 | TO-220IS | 2SK2679             | A    | Samsung |
| IRFS740A    | 400                  | 0.55                      | 5.7                | 44                 | TO-220IS | 2SK2952             | A    | Samsung |
| IRFS750A    | 400                  | 0.3                       | 8.4                | 49                 | TO-220IS |                     |      | Samsung |
| IRFS820A    | 500                  | 3                         | 2.1                | 33                 | TO-220IS | 2SK2862             | A    | Samsung |
| IRFS830A    | 500                  | 1.5                       | 3.1                | 38                 | TO-220IS | 2SK2662             | A    | Samsung |
| IRFS840A    | 500                  | 0.85                      | 4.6                | 44                 | TO-220IS | 2SK2662             | A    | Samsung |
| IRFSZ14A    | 60                   | 0.14                      | 8                  | 19                 | TO-220IS | 2SK2231             | B    | Samsung |
| IRFSZ24A    | 60                   | 0.07                      | 14                 | 30                 | TO-220IS | 2SK2232             | A    | Samsung |
| IRFSZ34A    | 60                   | 0.04                      | 20                 | 34                 | TO-220IS | 2SK2385             | A    | Samsung |
| IRFSZ44A    | 60                   | 0.024                     | 30                 | 45                 | TO-220IS | 2SK2312             | A    | Samsung |
| IRFU014     | 60                   | 0.2                       | 7.7                | 25                 | I-PAK    | 2SK2231             | A    | IR      |
| IRFU014A    | 60                   | 0.14                      | 8.2                | 18                 | I-PAK    | 2SK2231             | A    | Samsung |
| IRFU024     | 60                   | 0.1                       | 14                 | 42                 | I-PAK    | 2SK2782             | A    | IR      |
| IRFU024A    | 60                   | 0.07                      | 15                 | 30                 | I-PAK    | 2SK2782             | A    | Samsung |
| IRFU024N    | 55                   | 0.075                     | 16                 | 38                 | I-PAK    | 2SK2782             | A    | IR      |
| IRFU034A    | 60                   | 0.04                      | 23                 | 40                 | I-PAK    |                     |      | Samsung |
| IRFU110     | 100                  | 0.54                      | 4.3                | 25                 | I-PAK    | 2SK2201             | A    | IR      |
| IRFU110A    | 100                  | 0.4                       | 4.7                | 20                 | I-PAK    | 2SK2201             | A    | Samsung |
| IRFU120     | 100                  | 0.27                      | 7.7                | 42                 | I-PAK    | 2SK2399             | A    | IR      |
| IRFU1205    | 55                   | 0.027                     | 37                 | 69                 | I-PAK    |                     |      | IR      |
| IRFU120A    | 100                  | 0.2                       | 8.4                | 32                 | I-PAK    | 2SK2399             | A    | Samsung |
| IRFU120N    | 100                  | 0.21                      | 9.1                | 39                 | I-PAK    | 2SK2399             | A    | IR      |
| IRFU121     | 80                   | 0.27                      | 8.4                |                    | TO-251   | 2SK2399             | A    | Harris  |
| IRFU130A    | 100                  | 0.11                      | 13                 | 41                 | I-PAK    |                     |      | Samsung |
| IRFU210     | 200                  | 1.5                       | 2.6                | 25                 | I-PAK    | 2SK2920             | A    | IR      |
| IRFU210A    | 200                  | 1.5                       | 2.7                | 26                 | I-PAK    | 2SK2920             | A    | Samsung |
| IRFU214     | 250                  | 2                         | 2.2                | 25                 | I-PAK    |                     |      | IR      |
| IRFU214A    | 250                  | 2                         | 2.2                | 25                 | I-PAK    |                     |      | Samsung |
| IRFU220     | 200                  | 0.8                       | 4.8                | 42                 | I-PAK    | 2SK2920             | B    | IR      |
| IRFU220A    | 200                  | 0.8                       | 4.6                | 40                 | I-PAK    | 2SK2920             | A    | Samsung |
| IRFU221     | 150                  | 0.8                       | 4.6                |                    | TO-251   | 2SK2920             | A    | Harris  |
| IRFU222     | 200                  | 1.2                       | 3.8                |                    | TO-251   | 2SK2920             | A    | Harris  |
| IRFU224     | 250                  | 1.1                       | 3.8                | 42                 | I-PAK    |                     |      | IR      |
| IRFU224A    | 250                  | 1.1                       | 3.8                | 42                 | I-PAK    |                     |      | Samsung |
| IRFU230A    | 200                  | 0.4                       | 7.5                | 50                 | I-PAK    |                     |      | Samsung |
| IRFU234A    | 250                  | 0.45                      | 6.6                | 49                 | I-PAK    |                     |      | Samsung |
| IRFU310     | 400                  | 3.6                       | 1.7                | 25                 | I-PAK    | 2SK2599             | B    | IR      |
| IRFU310A    | 400                  | 3.6                       | 1.7                | 26                 | I-PAK    | 2SK2599             | B    | Samsung |
| IRFU320     | 400                  | 1.8                       | 3.1                | 42                 | I-PAK    | 2SK2679             | B    | IR      |
| IRFU320A    | 400                  | 1.8                       | 3.1                | 41                 | I-PAK    |                     |      | Samsung |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFU321     | 350                  | 1.8                       | 3.1                |                    | TO-251   | 2SK2679             | B    | Harris  |
| IRFU322     | 400                  | 2.5                       | 2.6                |                    | TO-251   | 2SK2599             | B    | Harris  |
| IRFU3303    | 30                   | 0.031                     | 33                 | 57                 | I-PAK    |                     |      | IR      |
| IRFU330A    | 400                  | 1                         | 4.5                | 48                 | I-PAK    |                     |      | Samsung |
| IRFU3910    | 100                  | 0.11                      | 15                 | 52                 | I-PAK    |                     |      | IR      |
| IRFU4105    | 55                   | 0.045                     | 25                 | 48                 | I-PAK    | 2SK2782             | A    | IR      |
| IRFU420     | 500                  | 3                         | 2.4                | 42                 | I-PAK    | 2SK2599             | B    | IR      |
| IRFU420A    | 500                  | 3                         | 2.3                | 41                 | I-PAK    | 2SK2599             | B    | Samsung |
| IRFU421     | 450                  | 3                         | 2.5                |                    | TO-251   | 2SK2599             | B    | Harris  |
| IRFU422     | 500                  | 4                         | 2.2                |                    | TO-251   | 2SK2599             | B    | Harris  |
| IRFU430A    | 500                  | 1.5                       | 3.5                | 48                 | I-PAK    |                     |      | Samsung |
| IRFU5305    | -55                  | 0.065                     | -28                | 89                 | I-PAK    |                     |      | IR      |
| IRFU5505    | -55                  | 0.11                      | -18                | 57                 | I-PAK    |                     |      | IR      |
| IRFU9014    | -60                  | 0.5                       | -5.1               | 25                 | I-PAK    | 2SJ377              | A    | IR      |
| IRFU9014    | -60                  | 0.5                       | 5.1                | 25                 | I-PAK    | 2SJ377              | A    | IR      |
| IRFU9024    | -60                  | 0.28                      | 8.8                | 42                 | I-PAK    | 2SJ377              | A    | IR      |
| IRFU9110    | -100                 | 1.2                       | 3.1                | 25                 | I-PAK    |                     |      | IR      |
| IRFU9120    | -100                 | 0.6                       | 5.6                | 42                 | I-PAK    |                     |      | IR      |
| IRFU9120N   | -100                 | 0.48                      | -6.5               | 39                 | I-PAK    |                     |      | IR      |
| IRFU9210    | -200                 | 3                         | 1.9                | 25                 | I-PAK    |                     |      | IR      |
| IRFU9214    | -250                 | 3                         | -2.7               | 50                 | I-PAK    | 2SJ512              | B    | IR      |
| IRFU9220    | -200                 | 1.5                       | 3.6                | 42                 | I-PAK    |                     |      | IR      |
| IRFU9310    | -400                 | 7                         | -1.8               | 50                 | I-PAK    |                     |      | IR      |
| IRFUC20     | 600                  | 4.4                       | 2                  | 42                 | I-PAK    | 2SK2865             | A    | IR      |
| IRFW450     | 500                  | 0.4                       | 14                 | 180                | TO-247   | 2SK2698             | A    | ST      |
| IRFW510A    | 100                  | 0.4                       | 5.6                | 33                 | D2-PAK   | 2SK2399             | B    | Samsung |
| IRFW520A    | 100                  | 0.2                       | 9.2                | 45                 | D2-PAK   | 2SK2399             | B    | Samsung |
| IRFW530A    | 100                  | 0.11                      | 14                 | 55                 | D2-PAK   | 2SK2789             | A    | Samsung |
| IRFW540A    | 100                  | 0.052                     | 28                 | 107                | D2-PAK   | 2SK2466             | B    | Samsung |
| IRFW550A    | 100                  | 0.04                      | 40                 | 167                | D2-PAK   | 2SK2466             | B    | Samsung |
| IRFW610A    | 200                  | 1.5                       | 3.3                | 38                 | D2-PAK   | 2SK2920             | B    | Samsung |
| IRFW614A    | 250                  | 2                         | 2.8                | 40                 | D2-PAK   |                     |      | Samsung |
| IRFW620A    | 200                  | 0.8                       | 5                  | 47                 | D2-PAK   | 2SK2920             | B    | Samsung |
| IRFW624A    | 250                  | 1.1                       | 4.1                | 49                 | D2-PAK   |                     |      | Samsung |
| IRFW630A    | 200                  | 0.4                       | 9                  | 72                 | D2-PAK   | 2SK2401             | A    | Samsung |
| IRFW634A    | 250                  | 0.45                      | 8.1                | 74                 | D2-PAK   | 2SK2598             | A    | Samsung |
| IRFW640A    | 200                  | 0.18                      | 18                 | 139                | D2-PAK   | 2SK2401             | A    | Samsung |
| IRFW644A    | 250                  | 0.28                      | 14                 | 139                | D2-PAK   | 2SK2598             | A    | Samsung |
| IRFW710A    | 400                  | 3.6                       | 2                  | 36                 | D2-PAK   | 2SK2838             | A    | Samsung |
| IRFW720A    | 400                  | 1.8                       | 3.3                | 46                 | D2-PAK   | 2SK2838             | A    | Samsung |
| IRFW730A    | 400                  | 1                         | 5.5                | 73                 | D2-PAK   | 2SK2838             | A    | Samsung |
| IRFW740A    | 400                  | 0.55                      | 10                 | 134                | D2-PAK   | 2SK2949             | A    | Samsung |
| IRFW820A    | 500                  | 3                         | 2.5                | 49                 | D2-PAK   |                     |      | Samsung |
| IRFW830A    | 500                  | 1.5                       | 4.5                | 73                 | D2-PAK   | 2SK2991             | A    | Samsung |
| IRFW840A    | 500                  | 0.85                      | 8                  | 134                | D2-PAK   | 2SK2776             | A    | Samsung |
| IRFWZ14A    | 60                   | 0.14                      | 10                 | 30                 | D2-PAK   | 2SK2231             | B    | Samsung |
| IRFWZ24A    | 60                   | 0.07                      | 17                 | 44                 | D2-PAK   | 2SK2311             | A    | Samsung |
| IRFWZ34A    | 60                   | 0.04                      | 30                 | 77                 | D2-PAK   | 2SK2311             | A    | Samsung |
| IRFWZ44A    | 60                   | 0.024                     | 50                 | 126                | D2-PAK   | 2SK2376             | A    | Samsung |
| IRFZ14      | 60                   | 0.2                       | 10                 | 43                 | TO-220AB | 2SK2231             | B    | IR      |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| IRFZ14A     | 60                   | 0.14                      | 10                 | 30                 | TO-220AB | 2SK2231             | B    | Samsung |
| IRFZ14S     | 60                   | 0.2                       | 10                 | 43                 | D2PAK    | 2SK2231             | B    | IR      |
| IRFZ24      | 60                   | 0.1                       | 17                 | 60                 | TO-220AB | 2SK2232             | B    | IR      |
| IRFZ24A     | 60                   | 0.07                      | 17                 | 44                 | TO-220AB | 2SK2232             | B    | Samsung |
| IRFZ24N     | 55                   | 0.07                      | 17                 | 45                 | TO220AB  | 2SK2232             | B    | IR      |
| IRFZ24NL    | 55                   | 0.07                      | 17                 | 45                 | TO-262   | 2SK2311             | A    | IR      |
| IRFZ24NS    | 55                   | 0.07                      | 17                 | 45                 | D2PAK    | 2SK2311             | A    | IR      |
| IRFZ24S     | 60                   | 0.1                       | 17                 | 60                 | D2PAK    | 2SK2782             | B    | IR      |
| IRFZ34      | 60                   | 0.05                      | 30                 | 88                 | TO-220AB | 2SK2232             | B    | IR      |
| IRFZ34A     | 60                   | 0.04                      | 30                 | 77                 | TO-220AB | 2SK2385             | B    | Samsung |
| IRFZ34E     | 60                   | 0.042                     | 28                 | 68                 | TO-220AB | 2SK2232             | B    | IR      |
| IRFZ34N     | 55                   | 0.04                      | 26                 | 56                 | TO-220AB | 2SK2232             | B    | IR      |
| IRFZ34NL    | 55                   | 0.04                      | 29                 | 68                 | TO-262   | 2SK2311             | A    | IR      |
| IRFZ34NS    | 55                   | 0.04                      | 29                 | 68                 | D2PAK    | 2SK2311             | A    | IR      |
| IRFZ34S     | 60                   | 0.05                      | 30                 | 88                 | D2PAK    | 2SK2266             | A    | IR      |
| IRFZ40      | 50                   | 0.028                     | 50                 | 150                | TO-220AB | 2SK2886             | B    | ST      |
| IRFZ40FI    | 50                   | 0.028                     | 27                 | 45                 | TO-220IS | 2SK2886             | A    | ST      |
| IRFZ44      | 60                   | 0.028                     | 50                 | 150                | TO-220AB | 2SK2385             | B    | IR      |
| IRFZ44A     | 60                   | 0.024                     | 50                 | 126                | TO-220AB | 2SK2312             | B    | Samsung |
| IRFZ44E     | 60                   | 0.023                     | 48                 | 110                | TO-220AB | 2SK2312             | B    | IR      |
| IRFZ44ES    | 60                   | 0.023                     | 48                 | 110                | D2PAK    | 2SK2376             | A    | IR      |
| IRFZ44N     | 55                   | 0.024                     | 41                 | 83                 | TO-220AB | 2SK2385             | B    | IR      |
| IRFZ44NL    | 55                   | 0.022                     | 49                 | 110                | TO-262   | 2SK2376             | A    | IR      |
| IRFZ44NS    | 55                   | 0.022                     | 49                 | 110                | D2PAK    | 2SK2376             | A    | IR      |
| IRFZ44S     | 60                   | 0.028                     | 50                 | 150                | D2PAK    | 2SK2266             | A    | IR      |
| IRFZ46      | 50                   | 0.024                     | 50                 | 150                | TO-220AB | 2SK2886             | B    | IR      |
| IRFZ46N     | 55                   | 0.02                      | 46                 | 88                 | TO-220AB | 2SK2312             | B    | IR      |
| IRFZ46NL    | 55                   | 0.02                      | 53                 | 120                | TO-262   | 2SK2376             | A    | IR      |
| IRFZ46NS    | 55                   | 0.02                      | 53                 | 120                | D2PAK    | 2SK2376             | A    | IR      |
| IRFZ46S     | 50                   | 0.024                     | 50                 | 150                | D2PAK    | 2SK3051             | A    | IR      |
| IRFZ48      | 60                   | 0.018                     | 50                 | 190                | TO-220AB | 2SK2312             | B    | IR      |
| IRFZ48N     | 55                   | 0.016                     | 53                 | 94                 | TO-220AB | 2SK2312             | B    | IR      |
| IRFZ48NL    | 55                   | 0.016                     | 64                 | 140                | TO-262   | 2SK2376             | A    | IR      |
| IRFZ48NS    | 55                   | 0.016                     | 64                 | 140                | D2PAK    | 2SK2376             | A    | IR      |
| IRFZ48S     | 60                   | 0.018                     | 50                 | 190                | D2PAK    | 2SK2376             | A    | IR      |
| IRL2203     | 30                   | 0.01                      | 92                 | 150                | TO-220AB | 2SK3127             | B    | IR      |
| IRL2203N    | 30                   | 0.007                     | 100                | 130                | TO-220AB |                     |      | IR      |
| IRL2203NL   | 30                   | 0.007                     | 116                | 170                | TO-262   |                     |      | IR      |
| IRL2203NS   | 30                   | 0.007                     | 116                | 170                | D2PAK    |                     |      | IR      |
| IRL2203S    | 30                   | 0.01                      | 92                 | 150                | D2PAK    | 2SK3127             | A    | IR      |
| IRL2505     | 55                   | 0.008                     | 104                | 200                | TO-220AB | 2SK2985             | B    | IR      |
| IRL2505L    | 55                   | 0.008                     | 104                | 200                | TO-262   | 2SK2986             | A    | IR      |
| IRL2505S    | 55                   | 0.008                     | 104                | 200                | D2PAK    | 2SK2986             | A    | IR      |
| IRL2703     | 30                   | 0.04                      | 24                 | 45                 | TO-220AB | 2SK2844             | A    | IR      |
| IRL2703S    | 30                   | 0.04                      | 24                 | 45                 | D2PAK    | 2SK3089             | A    | IR      |
| IRL2910     | 100                  | 0.026                     | 48                 | 150                | TO-220AB |                     |      | IR      |
| IRL2910S    | 100                  | 0.026                     | 48                 | 150                | D2PAK    |                     |      | IR      |
| IRL3102     | 20                   | 0.013                     | 61                 | 89                 | TO-220AB |                     |      | IR      |
| IRL3102S    | 20                   | 0.013                     | 61                 | 89                 | D2PAK    |                     |      | IR      |
| IRL3103     | 30                   | 0.014                     | 56                 | 83                 | TO-220AB |                     |      | IR      |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|--------|
| IRL3103L    | 30                   | 0.014                     | 64                 | 110                | TO-262   |                     |      | IR     |
| IRL3103S    | 30                   | 0.014                     | 64                 | 110                | D2PAK    |                     |      | IR     |
| IRL3202     | 20                   | 0.016                     | 48                 | 69                 | TO-220AB |                     |      | IR     |
| IRL3202S    | 20                   | 0.016                     | 48                 | 69                 | D2PAK    |                     |      | IR     |
| IRL3302     | 20                   | 0.02                      | 39                 | 57                 | TO-220AB |                     |      | IR     |
| IRL3302S    | 20                   | 0.02                      | 39                 | 57                 | D2PAK    |                     |      | IR     |
| IRL3303     | 30                   | 0.026                     | 34                 | 56                 | TO-220AB | 2SK2844             | A    | IR     |
| IRL3303L    | 30                   | 0.026                     | 38                 | 68                 | TO-262   | 2SK3089             | A    | IR     |
| IRL3303S    | 30                   | 0.026                     | 38                 | 68                 | D2PAK    | 2SK3089             | A    | IR     |
| IRL3402     | 20                   | 0.01                      | 85                 | 110                | TO-220AB |                     |      | IR     |
| IRL3402S    | 20                   | 0.01                      | 85                 | 110                | D2PAK    |                     |      | IR     |
| IRL3502     | 20                   | 0.007                     | 110                | 140                | TO-220AB |                     |      | IR     |
| IRL3502S    | 20                   | 0.007                     | 110                | 140                | D2PAK    |                     |      | IR     |
| IRL3705     | 50                   | 0.012                     | 80                 | 150                | TO-220AB |                     |      | IR     |
| IRL3705N    | 55                   | 0.01                      | 77                 | 130                | TO-220AB |                     |      | IR     |
| IRL3705NL   | 55                   | 0.01                      | 89                 | 170                | TO-262   |                     |      | IR     |
| IRL3705NS   | 55                   | 0.01                      | 89                 | 170                | D2PAK    |                     |      | IR     |
| IRL3705S    | 50                   | 0.012                     | 80                 | 150                | D2PAK    |                     |      | IR     |
| IRL3803     | 30                   | 0.006                     | 120                | 150                | TO-220AB |                     |      | IR     |
| IRL3803L    | 30                   | 0.006                     | 140                | 200                | TO-262   |                     |      | IR     |
| IRL3803S    | 30                   | 0.006                     | 140                | 200                | D2PAK    |                     |      | IR     |
| IRL510      | 100                  | 0.54                      | 5.6                | 43                 | TO-220AB |                     |      | IR     |
| IRL510S     | 100                  | 0.54                      | 5.6                | 43                 | D2PAK    |                     |      | IR     |
| IRL520      | 100                  | 0.27                      | 9.2                | 60                 | TO-220AB | 2SK2399             | B    | IR     |
| IRL520N     | 100                  | 0.18                      | 10                 | 47                 | TO-220AB | 2SK2314             | A    | IR     |
| IRL520S     | 100                  | 0.27                      | 9.2                | 60                 | D2PAK    | 2SK2399             | B    | IR     |
| IRL530      | 100                  | 0.16                      | 15                 | 88                 | TO-220AB | 2SK2314             | A    | IR     |
| IRL530N     | 100                  | 0.1                       | 15                 | 63                 | TO-220AB | 2SK2314             | A    | IR     |
| IRL530NS    | 100                  | 0.1                       | 15                 | 63                 | D2PAK    | 2SK2789             | A    | IR     |
| IRL530S     | 100                  | 0.16                      | 15                 | 88                 | D2PAK    | 2SK2789             | A    | IR     |
| IRL540      | 100                  | 0.077                     | 28                 | 150                | TO-220AB | 2SK2314             | A    | IR     |
| IRL540N     | 100                  | 0.044                     | 30                 | 94                 | TO-220AB | 2SK2466             | A    | IR     |
| IRL540S     | 100                  | 0.077                     | 28                 | 150                | D2PAK    | 2SK2789             | A    | IR     |
| IRL620      | 200                  | 0.8                       | 5.2                | 50                 | TO-220AB | 2SK2381             | B    | IR     |
| IRL620S     | 200                  | 0.8                       | 5.2                | 50                 | D2PAK    | 2SK2920             | B    | IR     |
| IRL630      | 200                  | 0.4                       | 9                  | 74                 | TO-220AB | YTA630              | A    | IR     |
| IRL630S     | 200                  | 0.4                       | 9                  | 74                 | D2PAK    | 2SK2401             | A    | IR     |
| IRL640S     | 200                  | 0.18                      | 18                 | 125                | D2PAK    | 2SK2401             | A    | IR     |
| IRLD014     | 60                   | 0.2                       | 1.7                | 1.3                | DIP      |                     |      | IR     |
| IRLD024     | 60                   | 0.1                       | 2.5                | 1.3                | DIP      |                     |      | IR     |
| IRLD110     | 100                  | 0.54                      | 1                  | 1.3                | DIP      |                     |      | IR     |
| IRLD120     | 100                  | 0.27                      | 1.3                | 1.3                | DIP      |                     |      | IR     |
| IRLI2203G   | 30                   | 0.01                      | 49                 | 48                 | TO-220IS |                     |      | IR     |
| IRLI2203N   | 30                   | 0.007                     | 61                 | 47                 | TO-220IS |                     |      | IR     |
| IRLI2505    | 55                   | 0.008                     | 58                 | 63                 | TO-220IS | 2SK2985             | A    | IR     |
| IRLI2910    | 100                  | 0.026                     | 27                 | 48                 | TO-220IS |                     |      | IR     |
| IRLI3705G   | 50                   | 0.012                     | 45                 | 48                 | TO-220IS |                     |      | IR     |
| IRLI3705N   | 55                   | 0.01                      | 47                 | 47                 | TO-220IS |                     |      | IR     |
| IRLI3803    | 30                   | 0.006                     | 67                 | 48                 | TO-220IS |                     |      | IR     |
| IRLI520G    | 100                  | 0.27                      | 7.2                | 37                 | TO-220IS | 2SK2399             | B    | IR     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|--------|
| IRLI520N    | 100                  | 0.18                      | 7.7                | 27                 | TO-220IS | 2SK2391             | A    | IR     |
| IRLI530G    | 100                  | 0.16                      | 9.7                | 42                 | TO-220IS | 2SK2391             | A    | IR     |
| IRLI530N    | 100                  | 0.1                       | 11                 | 33                 | TO-220IS | 2SK2391             | A    | IR     |
| IRLI540G    | 100                  | 0.077                     | 12                 | 48                 | TO-220IS | 2SK2391             | A    | IR     |
| IRLI540N    | 100                  | 0.044                     | 20                 | 42                 | TO-220IS | 2SK2466             | B    | IR     |
| IRLI620G    | 200                  | 0.8                       | 4.1                | 30                 | TO-220IS | 2SK2381             | A    | IR     |
| IRLI630G    | 200                  | 0.4                       | 5.9                | 32                 | TO-220IS | 2SK2350             | A    | IR     |
| IRLI640G    | 200                  | 0.18                      | 9.8                | 40                 | TO-220IS | YTAF640             | A    | IR     |
| IRLIZ14G    | 60                   | 0.2                       | 8                  | 27                 | TO-220IS | 2SK2231             | B    | IR     |
| IRLIZ24G    | 60                   | 0.1                       | 14                 | 37                 | TO-220IS | 2SK2232             | A    | IR     |
| IRLIZ24N    | 55                   | 0.06                      | 14                 | 26                 | TO-220IS | 2SK2232             | A    | IR     |
| IRLIZ34G    | 60                   | 0.05                      | 20                 | 42                 | TO-220IS | 2SK2232             | A    | IR     |
| IRLIZ34N    | 55                   | 0.035                     | 20                 | 31                 | TO-220IS | 2SK2385             | A    | IR     |
| IRLIZ44G    | 60                   | 0.028                     | 30                 | 48                 | TO-220IS | 2SK2385             | A    | IR     |
| IRLIZ44N    | 55                   | 0.022                     | 28                 | 38                 | TO-220IS | 2SK2312             | A    | IR     |
| IRLL014     | 60                   | 0.2                       | 2.7                | 3.1                | SOT-223  | 2SK2741             | A    | IR     |
| IRLL014N    | 55                   | 0.14                      | 2                  | 2.1                | SOT-223  | 2SK2741             | A    | IR     |
| IRLL110     | 100                  | 0.54                      | 1.5                | 3.1                | SOT-223  | 2SK2742             | A    | IR     |
| IRLL2705    | 55                   | 0.04                      | 5.2                | 2.1                | SOT-223  |                     |      | IR     |
| IRLL3303    | 30                   | 0.031                     | 6.5                | 2.1                | SOT-223  | 2SK2839             | A    | IR     |
| IRLML2402   | 20                   | 0.25                      | 0.93               | 0.34               | Micro-3  |                     |      | IR     |
| IRLML2803   | 30                   | 0.25                      | 0.91               | 0.34               | Micro-3  |                     |      | IR     |
| IRLML5103   | -30                  | 0.6                       | 0.6                | 0.28               | Micro-3  |                     |      | IR     |
| IRLML6302   | -20                  | 0.6                       | 0.61               | 0.28               | Micro-3  | SSM3J01F            |      | IR     |
| IRLMS1503   | 30                   | 0.1                       | 3.2                | 1.7                | MICRO6   |                     |      | IR     |
| IRLMS1902   | 20                   | 0.1                       | 3.2                | 1.7                | MICRO6   |                     |      | IR     |
| IRLMS5703   | -30                  | 0.2                       | -2.3               | 1.7                | MICRO6   |                     |      | IR     |
| IRLMS6702   | -20                  | 0.2                       | -2.3               | 1.7                | MICRO6   |                     |      | IR     |
| IRLR014     | 60                   | 0.2                       | 7.7                | 25                 | D-PAK    | 2SK2231             | A    | IR     |
| IRLR024     | 60                   | 0.1                       | 14                 | 42                 | D-PAK    | 2SK2232             | A    | IR     |
| IRLR024N    | 55                   | 0.065                     | 17                 | 38                 | D-PAK    | 2SK2782             | A    | IR     |
| IRLR110     | 100                  | 0.54                      | 4.3                | 25                 | D-PAK    | 2SK2201             | A    | IR     |
| IRLR120     | 100                  | 0.27                      | 7.7                | 42                 | D-PAK    | 2SK2399             | A    | IR     |
| IRLR120N    | 100                  | 0.185                     | 11                 | 39                 | D-PAK    | 2SK2399             | A    | IR     |
| IRLR2703    | 30                   | 0.045                     | 22                 | 38                 | D-PAK    |                     |      | IR     |
| IRLR2705    | 55                   | 0.04                      | 24                 | 46                 | D-PAK    |                     |      | IR     |
| IRLR2905    | 55                   | 0.027                     | 36                 | 69                 | D-PAK    |                     |      | IR     |
| IRLR3103    | 30                   | 0.019                     | 46                 | 69                 | D-PAK    |                     |      | IR     |
| IRLR3303    | 30                   | 0.031                     | 33                 | 57                 | D-PAK    |                     |      | IR     |
| IRLR3410    | 100                  | 0.1                       | 15                 | 52                 | D-PAK    |                     |      | IR     |
| IRLU014     | 60                   | 0.2                       | 7.7                | 25                 | I-PAK    | 2SK2231             | A    | IR     |
| IRLU024     | 60                   | 0.1                       | 14                 | 42                 | I-PAK    | 2SK2782             | A    | IR     |
| IRLU024N    | 55                   | 0.065                     | 17                 | 38                 | I-PAK    | 2SK2782             | A    | IR     |
| IRLU110     | 100                  | 0.54                      | 4.3                | 25                 | I-PAK    | 2SK2201             | A    | IR     |
| IRLU120     | 100                  | 0.27                      | 7.7                | 42                 | I-PAK    | 2SK2399             | A    | IR     |
| IRLU120N    | 100                  | 0.185                     | 11                 | 39                 | I-PAK    | 2SK2399             | A    | IR     |
| IRLU2703    | 30                   | 0.045                     | 22                 | 38                 | I-PAK    |                     |      | IR     |
| IRLU2705    | 55                   | 0.04                      | 24                 | 46                 | I-PAK    |                     |      | IR     |
| IRLU2905    | 55                   | 0.027                     | 36                 | 69                 | I-PAK    |                     |      | IR     |
| IRLU3103    | 30                   | 0.019                     | 46                 | 69                 | I-PAK    |                     |      | IR     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package     | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|-------------|---------------------|------|-----------|
| IRLU3303    | 30                   | 0.031                     | 33                 | 57                 | I-PAK       |                     |      | IR        |
| IRLU3410    | 100                  | 0.1                       | 15                 | 52                 | I-PAK       |                     |      | IR        |
| IRLZ14      | 60                   | 0.2                       | 10                 | 43                 | TO-220AB    | 2SK2231             | B    | IR        |
| IRLZ14S     | 60                   | 0.2                       | 10                 | 43                 | D2PAK       | 2SK2231             | B    | IR        |
| IRLZ24      | 60                   | 0.1                       | 17                 | 60                 | TO-220AB    | 2SK2232             | B    | IR        |
| IRLZ24N     | 55                   | 0.06                      | 18                 | 45                 | TO-220AB    | 2SK2232             | B    | IR        |
| IRLZ24NL    | 55                   | 0.06                      | 18                 | 45                 | TO-262      | 2SK2311             | A    | IR        |
| IRLZ24NS    | 55                   | 0.06                      | 18                 | 45                 | D2PAK       | 2SK2311             | A    | IR        |
| IRLZ24S     | 60                   | 0.1                       | 17                 | 60                 | D2PAK       | 2SK2782             | B    | IR        |
| IRLZ34      | 60                   | 0.05                      | 30                 | 88                 | TO-220AB    | 2SK2232             | B    | IR        |
| IRLZ34N     | 55                   | 0.035                     | 27                 | 56                 | TO-220AB    | 2SK2385             | B    | IR        |
| IRLZ34NL    | 55                   | 0.035                     | 30                 | 68                 | TO-262      | 2SK2266             | A    | IR        |
| IRLZ34NS    | 55                   | 0.035                     | 30                 | 68                 | D2PAK       | 2SK2266             | A    | IR        |
| IRLZ34S     | 60                   | 0.05                      | 30                 | 88                 | D2PAK       | 2SK2311             | A    | IR        |
| IRLZ44      | 60                   | 0.028                     | 50                 | 150                | TO-220AB    | 2SK2385             | B    | IR        |
| IRLZ44N     | 55                   | 0.022                     | 41                 | 83                 | TO-220AB    | 2SK2312             | B    | IR        |
| IRLZ44NL    | 55                   | 0.022                     | 47                 | 110                | TO-262      | 2SK2376             | A    | IR        |
| IRLZ44NS    | 55                   | 0.022                     | 47                 | 110                | D2PAK       | 2SK2376             | A    | IR        |
| IRLZ44S     | 60                   | 0.028                     | 50                 | 150                | D2PAK       | 2SK2266             | A    | IR        |
| MLP1N06CL   | 60                   | 0.75                      | 1                  |                    | TO-220AB    |                     |      | Motorola  |
| MLP2N06CL   | 62                   | 0.4                       | 2                  |                    | TO-220AB    |                     |      | Motorola  |
| MMBF170     | 60                   | 5                         | 0.5                | 0.3                | SOT-23      |                     |      | Fairchild |
| MMDF1300R2  | 25/-25               | 0.1/0.21                  | 2/2                |                    | SOP-8(P&N)  |                     |      | Motorola  |
| MMDF1N05E   | 50                   | 0.18                      | 1                  |                    | SOP-8(Dual) | TPC8205             | A    | Motorola  |
| MMDF2C01HD  | 20/-12               | 0.045/0.18                | 5.2/3.4            |                    | SOP-8(P&N)  |                     |      | Motorola  |
| MMDF2C02E   | 25/-25               | 0.1/0.25                  | 3.6/2.5            |                    | SOP-8(P&N)  |                     |      | Motorola  |
| MMDF2C02HD  | 20/-20               | 0.09/0.16                 | 3.8/-3.3           |                    | SOP-8(P&N)  |                     |      | Motorola  |
| MMDF2C03HD  | 30/-30               | 0.07/0.2                  | 4.1/-3             |                    | SOP-8(P&N)  | TPC8401             | A    | Motorola  |
| MMDF2N02E   | 25                   | 0.1                       | 3.6                |                    | SOP-8(Dual) |                     |      | Motorola  |
| MMDF2N05Z   | 50                   | 0.3                       | 2                  | 1.6                | SOP-8(Dual) | TPC8205             | A    | Motorola  |
| MMDF2P01HD  | -12                  | 0.18                      | -3.4               |                    | SOP-8(Dual) |                     |      | Motorola  |
| MMDF2P02E   | -25                  | 0.25                      | -2.5               |                    | SOP-8(Dual) | TPC8303             | A    | Motorola  |
| MMDF2P02HD  | -20                  | 0.16                      | -3.3               |                    | SOP-8(Dual) | TPC8302             | A    | Motorola  |
| MMDF2P03HD  | -30                  | 0.2                       | -3                 |                    | SOP-8(Dual) | TPC8301             | A    | Motorola  |
| MMDF3200*   | 20                   | 0.02                      |                    |                    | SOP-8(Dual) | TPC8204             | A    | Motorola  |
| MMDF3200D   | 20                   | 0.015                     | 7.1                |                    | SOP-8(Dual) | TPC8204             | A    | Motorola  |
| MMDF3200Z   | 20                   | 0.015                     | 7.1                |                    | SOP-8(Dual) | TPC8204             | A    | Motorola  |
| MMDF3201*   | 20                   | 0.015                     | 7.1                |                    | SOP-8(Dual) | TPC8204             | A    | Motorola  |
| MMDF3207*   | -20                  | 0.03                      |                    |                    | SOP-8(Dual) |                     |      | Motorola  |
| MMDF3301*   | -30                  | 0.04                      |                    |                    | SOP-8(Dual) | TPC8303             | A    | Motorola  |
| MMDF3303*   | 30/-30               | 0.025/0.04                |                    |                    | SOP-8(P&N)  | TPC8401             | A    | Motorola  |
| MMDF3304*   | 30                   | 0.025                     |                    |                    | SOP-8(Dual) | TPCT8203            | A    | Motorola  |
| MMDF3N02HD  | 20                   | 0.09                      | 3.8                |                    | SOP-8(Dual) | TPC8202             | A    | Motorola  |
| MMDF3N03HD  | 30                   | 0.07                      | 4.1                |                    | SOP-8(Dual) | TPC8201             | A    | Motorola  |
| MMDF3N04HD  | 40                   | 0.08                      | 3.4                | 2                  | SOP-8(Dual) |                     |      | Motorola  |
| MMDF3N06HD  | 60                   | 0.1                       | 3.3                |                    | SOP-8(Dual) |                     |      | Motorola  |
| MMDF4N01HD  | 12                   | 0.1                       | 4                  |                    | SOP-8(Dual) |                     |      | Motorola  |
| MMDF4N02Z   | 20                   | 0.04                      | 4.5                |                    | SOP-8(Dual) | TPC8202             | A    | Motorola  |
| MMDF5N02Z   | 20                   | 0.04                      | 5                  |                    | SOP-8(Dual) | TPC8202             | A    | Motorola  |
| MMDF6N02HD  | 20                   | 0.035                     | 6                  |                    | SOP-8(Dual) | TPC8204             | A    | Motorola  |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender   |
|--------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|----------|
| MMFT1N10E    | 100                  | 0.3                       | 1                  |                    | SOT-223       | 2SK2742             | A    | Motorola |
| MMFT2955E    | -60                  | 0.3                       | 1.2                |                    | SOT-223       | 2SJ482              | A    | Motorola |
| MMFT2N02EL   | 20                   | 0.15                      | 2                  | 0.8                | SOT-223       | 2SK2839             | A    | Motorola |
| MMFT3055E    | 60                   | 0.15                      | 1.7                |                    | SOT-223       | 2SK2741             | A    | Motorola |
| MMFT3055EL   | 60                   | 0.18                      | 1.5                |                    | SOT-223       | 2SK2741             | A    | Motorola |
| MMFT3055V    | 60                   | 0.13                      | 1.7                | 0.8                | SOT-223       | 2SK2741             | A    | Motorola |
| MMFT3055VL   | 60                   | 0.14                      | 1.5                | 0.8                | SOT-223       | 2SK2741             | A    | Motorola |
| MMSF10N02Z   | 20                   | 0.015                     | 10.                |                    | SOP-8(Single) | TPC8008             | A    | Motorola |
| MMSF2P02E    | -20                  | 0.25                      | -2.5               |                    | SOP-8(Single) |                     |      | Motorola |
| MMSF3203*    | -20                  | 0.02                      |                    |                    | SOP-8(Single) |                     |      | Motorola |
| MMSF3205     | -20                  | 0.015                     | -8.6               |                    | SOP-8(Single) |                     |      | Motorola |
| MMSF3207     | -20                  | 0.033                     | -4.8               |                    | SOP-8(Dual)   |                     |      | Motorola |
| MMSF3300     | 30                   | 0.0125                    |                    |                    | SOP-8(Single) | TPC8007-H           | A    | Motorola |
| MMSF3305*    | -30                  | 0.02                      |                    |                    | SOP-8(Single) | TPC8106-H           | A    | Motorola |
| MMSF3P02HD   | -20                  | 0.075                     | -5.6               |                    | SOP-8(Single) |                     |      | Motorola |
| MMSF3P03HD   | -30                  | 0.1                       | -4.6               |                    | SOP-8(Single) | TPC8104-H           | A    | Motorola |
| MMSF4N01HD   | 12                   | 0.045                     | 4                  | 1.5                | SOP-8(Single) |                     |      | Motorola |
| MMSF4P01HD   | -12                  | 0.08                      | -5.1               |                    | SOP-8(Single) |                     |      | Motorola |
| MMSF5N02HD   | 20                   | 0.025                     | 8.2                |                    | SOP-8(Single) | TPC8008             | A    | Motorola |
| MMSF5N03HD   | 30                   | 0.04                      | 6.5                |                    | SOP-8(Single) | TPC8006-H           | A    | Motorola |
| MMSF5N03Z    | 30                   | 0.035                     | 5                  | 1.6                | SOP-8(Single) | TPC8001             | A    | Motorola |
| MMSF6N01HD   | 12                   | 0.045                     | 6                  |                    | SOP-8(Single) |                     |      | Motorola |
| MMSF6N02Z    | 20                   | 0.022                     | 6                  | 1.6                | SOP-8(Single) | TPC8001             | A    | Motorola |
| MMSF7N02Z    | 20                   | 0.022                     | 7                  |                    | SOP-8(Single) | TPC8008             | A    | Motorola |
| MMSF7N03HD   | 30                   | 0.028                     | 8.2                | 2.5                | SOP-8(Single) | TPC8006-H           | A    | Motorola |
| MMSF7N03Z    | 30                   | 0.03                      | 7.5                |                    | SOP-8(Single) | TPC8006-H           | A    | Motorola |
| MPM3002      | 100                  | 0.4/0.15                  | 8                  |                    | ICePAK(H-B)   |                     |      | Motorola |
| MPM3003      | 60                   | 0.28/0.15                 | 10                 |                    | ICePAK(FULL)  |                     |      | Motorola |
| MPM3004      | 60                   | 0.28/0.15                 | 10                 |                    | ICePAK(H-B)   |                     |      | Motorola |
| MPM3008      | 60                   | 0.15/0.04                 | 16                 |                    | ICePAK(H-B)   |                     |      | Motorola |
| MPM3010      | 60                   | 0.15/0.15                 | 12                 |                    | ICePAK(H-B)   |                     |      | Motorola |
| MPM3017      | 60                   | 0.15/0.04                 | 25                 |                    | ICePAK(H-B)   |                     |      | Motorola |
| MTA1N60E     | 600                  | 3.8                       | 1                  |                    | TO-220IS      | 2SK3067             | A    | Motorola |
| MTA2955E     | -60                  | 0.3                       | 8                  |                    | TO-220IS      | 2SJ438              | A    | Motorola |
| MTA2N60E     | 600                  | 2.2                       | 2                  |                    | TO-220IS      | 2SK2750             | A    | Motorola |
| MTA3055E     | 60                   | 0.15                      | 9                  |                    | TO-220IS      | 2SK2231             | B    | Motorola |
| MTA30N06E    | 60                   | 0.025                     | 30                 |                    | TO-220IS      | 2SK2312             | A    | Motorola |
| MTA4N40E     | 400                  | 1                         | 4                  |                    | TO-220IS      | 2SK2679             | A    | Motorola |
| MTA4N50E     | 500                  | 1.5                       | 4                  |                    | TO-220IS      | 2SK2662             | A    | Motorola |
| MTA4N60E     | 600                  | 1.2                       | 4                  |                    | TO-220IS      | 2SK2545             | A    | Motorola |
| MTA5N50E     | 500                  | 0.8                       | 5                  |                    | TO-220IS      | 2SK2662             | A    | Motorola |
| MTA6N40E     | 400                  | 0.55                      | 6                  |                    | TO-220IS      | 2SK2952             | A    | Motorola |
| MTA8N10E     | 100                  | 0.25                      | 8                  |                    | TO-220IS      | 2SK2399             | B    | Motorola |
| MTAJ10P10    | -100                 | 0.3                       | 10                 | 40                 | TO-220IS      | 2SJ438              | A    | Motorola |
| MTAJ15P06    | -60                  | 0.12                      | 15                 | 45                 | TO-220IS      | 2SJ304              | A    | Motorola |
| MTAJ23N06HDL | 60                   | 0.03                      | 23                 | 40                 | TO-220IS      | 2SK2385             | A    | Motorola |
| MTAJ25N06EL  | 60                   | 0.05                      | 25                 | 40                 | TO-220IS      | 2SK2232             | A    | Motorola |
| MTAJ27N06E   | 60                   | 0.04                      | 27                 | 40                 | TO-220IS      | 2SK2385             | A    | Motorola |
| MTAJ3055E    | 60                   | 0.15                      | 10                 | 30                 | TO-220IS      | 2SK2231             | B    | Motorola |
| MTAJ3055EL   | 60                   | 0.18                      | 12                 | 30                 | TO-220IS      | 2SK2231             | B    | Motorola |

**Power MOSFETs Cross Reference**
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| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender   |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|----------|
| MTAJ30N06E  | 60                   | 0.028                     | 30                 | 50                 | TO-220IS | 2SK2385             | A    | Motorola |
| MTAJ30N06EL | 60                   | 0.028                     | 30                 | 50                 | TO-220IS | 2SK2385             | A    | Motorola |
| MTAJ30N06HD | 60                   | 0.021                     | 30                 | 35                 | TO-220IS | 2SK2312             | A    | Motorola |
| MTAJ8N10E   | 100                  | 0.25                      | 8                  | 35                 | TO-220IS | 2SK2399             | B    | Motorola |
| MTB10N40E   | 400                  | 0.55                      | 10                 |                    | D2-PAK   | 2SK2949             | A    | Motorola |
| MTB15N06E   | 60                   | 0.12                      | 15                 |                    | D2-PAK   | 2SK2782             | B    | Motorola |
| MTB15N06V   | 60                   | 0.12                      | 15                 |                    | D2-PAK   | 2SK2782             | B    | Motorola |
| MTB16N25E   | 250                  | 0.25                      | 16                 |                    | D2-PAK   | 2SK2598             | A    | Motorola |
| MTB1N100E   | 1000                 | 9                         | 1                  |                    | D2-PAK   | 2SK1930             | A    | Motorola |
| MTB20N20E   | 200                  | 0.16                      | 20                 |                    | D2-PAK   | 2SK2401             | A    | Motorola |
| MTB23P06E   | -60                  | 0.12                      | 23                 |                    | D2-PAK   | 2SJ401              | A    | Motorola |
| MTB23P06V   | -60                  | 0.12                      | 23                 |                    | D2-PAK   | 2SJ401              | A    | Motorola |
| MTB2N40E    | 400                  | 3.5                       | 2                  |                    | D2-PAK   | 2SK2838             | A    | Motorola |
| MTB2N60E    | 600                  | 4.16                      | 2                  |                    | D2-PAK   | 2SK2865             | B    | Motorola |
| MTB2P50E    | -500                 | 6                         | 2                  |                    | D2-PAK   |                     |      | Motorola |
| MTB30N06EL  | 60                   | 0.05                      | 30                 |                    | D2-PAK   | 2SK2311             | A    | Motorola |
| MTB30N06VL  | 60                   | 0.05                      | 30                 |                    | D2-PAK   | 2SK2311             | A    | Motorola |
| MTB30P06V   | -60                  | 0.08                      | 30                 |                    | D2-PAK   | 2SJ401              | A    | Motorola |
| MTB33N10E   | 100                  | 0.06                      | 33                 |                    | D2-PAK   | 2SK2466             | B    | Motorola |
| MTB35N06ZL  | 60                   | 0.026                     | 35                 |                    | D2-PAK   | 2SK2266             | A    | Motorola |
| MTB36N06E   | 60                   | 0.04                      | 36                 |                    | D2-PAK   | 2SK2311             | A    | Motorola |
| MTB36N06V   | 60                   | 0.04                      | 32                 |                    | D2-PAK   | 2SK2311             | A    | Motorola |
| MTB3N100E   | 1000                 | 4                         | 3                  |                    | D2-PAK   | 2SK1930             | A    | Motorola |
| MTB3N120E   | 1200                 | 5                         | 3                  |                    | D2-PAK   |                     |      | Motorola |
| MTB4N80E    | 800                  | 3                         | 4                  |                    | D2-PAK   | 2SK2883             | A    | Motorola |
| MTB50N06E   | 60                   | 0.025                     | 50                 |                    | D2-PAK   | 2SK2376             | A    | Motorola |
| MTB50N06EL  | 60                   | 0.028                     | 50                 |                    | D2-PAK   | 2SK2266             | A    | Motorola |
| MTB50N06V   | 60                   | 0.028                     | 42                 |                    | D2-PAK   | 2SK2266             | A    | Motorola |
| MTB50N06VL  | 60                   | 0.032                     | 42                 |                    | D2-PAK   | 2SK2266             | A    | Motorola |
| MTB50P03HDL | -30                  | 0.03                      | 50                 |                    | D2-PAK   |                     |      | Motorola |
| MTB52N06VL  | 60                   | 0.024                     | 52                 |                    | D2-PAK   | 2SK2376             | A    | Motorola |
| MTB55N06Z   | 60                   | 0.018                     | 55                 |                    | D2-PAK   | 2SK2376             | A    | Motorola |
| MTB56N06V   | 60                   | 0.022                     | 52                 |                    | D2-PAK   | 2SK2376             | A    | Motorola |
| MTB60N06HD  | 60                   | 0.014                     | 60                 |                    | D2-PAK   | 2SK2376             | A    | Motorola |
| MTB6N60E    | 600                  | 1.2                       | 6                  |                    | D2-PAK   | 2SK2777             | A    | Motorola |
| MTB75N03HDL | 30                   | 0.007                     | 75                 |                    | D2-PAK   |                     |      | Motorola |
| MTB75N05HD  | 50                   | 0.0095                    | 75                 |                    | D2-PAK   | 2SK2986             | A    | Motorola |
| MTB75N06HD  | 60                   | 0.01                      | 75                 |                    | D2-PAK   | 2SK2986             | A    | Motorola |
| MTB8N50E    | 500                  | 0.8                       | 8                  |                    | D2-PAK   | 2SK2776             | A    | Motorola |
| MTB9N25E    | 250                  | 0.5                       | 9                  |                    | D2-PAK   |                     |      | Motorola |
| MTD10N05E   | 50                   | 0.1                       | 10                 |                    | D-PAK    | 2SK2614             | A    | Motorola |
| MTD10N10EL  | 100                  | 0.22                      | 10                 |                    | D-PAK    | 2SK2399             | A    | Motorola |
| MTD12N06EZL | 60                   | 0.18                      | 12                 |                    | D-PAK    | 2SK2231             | A    | Motorola |
| MTD14N10E   | 100                  |                           | 14                 |                    | D-PAK    |                     |      | Motorola |
| MTD15N06V   | 60                   | 0.12                      | 15                 |                    | D-PAK    | 2SK2782             | A    | Motorola |
| MTD15N06VL  | 60                   | 0.085                     | 15                 |                    | D-PAK    | 2SK2782             | A    | Motorola |
| MTD1N50E    | 500                  | 5                         | 1                  |                    | D-PAK    | 2SK2865             | A    | Motorola |
| MTD1N60E    | 600                  | 8                         | 1                  |                    | D-PAK    | 2SK2865             | A    | Motorola |
| MTD1N80E    | 800                  | 12                        | 1                  |                    | D-PAK    | 2SK2997             | A    | Motorola |
| MTD1P50E    | -500                 | 15                        | 1                  |                    | D-PAK    |                     |      | Motorola |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender   |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|----------|
| MTD20N03HDL | 30                   | 0.035                     | 20                 |                    | D-PAK         | 2SK2614             | A    | Motorola |
| MTD20N06HD  | 60                   | 0.045                     | 20                 |                    | D-PAK         |                     |      | Motorola |
| MTD20N06HDL | 60                   | 0.045                     | 20                 |                    | D-PAK         |                     |      | Motorola |
| MTD20N06V   | 60                   | 0.08                      | 20                 |                    | D-PAK         | 2SK2782             | A    | Motorola |
| MTD20P03HDL | -30                  | 0.099                     | 19                 |                    | D-PAK         | 2SJ401              |      | Motorola |
| MTD20P06HDL | -60                  | 0.15                      | 15                 |                    | D-PAK         | 2SJ377              | A    | Motorola |
| MTD2955E    | -60                  | 0.3                       | 12                 |                    | D-PAK         | 2SJ312              | B    | Motorola |
| MTD2955V    | -60                  | 0.3                       | 12                 |                    | D-PAK         | 2SJ377              | A    | Motorola |
| MTD2N40E    | 400                  | 3.5                       | 2                  |                    | D-PAK         |                     |      | Motorola |
| MTD2N50E    | 500                  | 3.6                       | 2                  |                    | D-PAK         | 2SK2599             | B    | Motorola |
| MTD3055E    | 60                   | 0.15                      | 8                  |                    | D-PAK         | 2SK2231             | A    | Motorola |
| MTD3055EL   | 60                   | 0.18                      | 12                 |                    | D-PAK         | 2SK2231             | A    | Motorola |
| MTD3055V    | 60                   | 0.15                      | 8                  |                    | D-PAK         | 2SK2231             | A    | Motorola |
| MTD3055VL   | 60                   | 0.18                      | 12                 |                    | D-PAK         | 2SK2231             | A    | Motorola |
| MTD3N20E    | 200                  | 1.5                       | 3                  |                    | D-PAK         | 2SK2920             | A    | Motorola |
| MTD3N25E    | 250                  | 1.4                       | 3                  |                    | D-PAK         |                     |      | Motorola |
| MTD4N20     | 200                  | 0.7                       | 4                  |                    | D-PAK         | 2SK2920             | A    | Motorola |
| MTD4N20E    | 200                  | 1.2                       | 4                  |                    | D-PAK         | 2SK2920             | A    | Motorola |
| MTD5N25E    | 250                  | 1                         | 5                  |                    | D-PAK         |                     |      | Motorola |
| MTD5P06E    | -60                  | 0.55                      | 5                  |                    | D-PAK         | 2SJ377              | A    | Motorola |
| MTD5P06V    | -60                  | 0.45                      | 5                  |                    | D-PAK         | 2SJ377              | A    | Motorola |
| MTD6N10E    | 100                  | 0.4                       | 6                  |                    | D-PAK         | 2SK2201             | A    | Motorola |
| MTD6N15     | 150                  | 0.3                       | 6                  |                    | D-PAK         |                     |      | Motorola |
| MTD6N20E    | 200                  | 0.7                       | 6                  |                    | D-PAK         | 2SK2920             | A    | Motorola |
| MTD6P10E    | -100                 | 0.66                      | 6                  |                    | D-PAK         |                     |      | Motorola |
| MTD8N06E    | 60                   | 0.12                      | 8                  |                    | D-PAK         | 2SK2782             | A    | Motorola |
| MTD9N10E    | 100                  | 0.25                      | 9                  |                    | D-PAK         | 2SK2399             | A    | Motorola |
| MTDF1N02HD  | 20                   | 0.135                     | 1.5                |                    | Micro-8(DUAL) |                     |      | Motorola |
| MTDF1N03HD  | 30                   | 0.135                     | 1.5                |                    | Micro-8(DUAL) |                     |      | Motorola |
| MTDF1P02HD  | -20                  | 0.175                     | -1.3               |                    | Micro-8(Dual) |                     |      | Motorola |
| MTE125N20E  | 200                  | 0.015                     | 125                |                    | ISOTOP        |                     |      | Motorola |
| MTE215N10E  | 100                  | 0.0055                    | 215                |                    | ISOTOP        |                     |      | Motorola |
| MTE30N50E   | 500                  | 0.15                      | 30                 | 250                | ISOTOP        |                     |      | Motorola |
| MTE53N50E   | 500                  | 0.08                      | 53                 |                    | ISOTOP        |                     |      | Motorola |
| MTM12P10    | -100                 | 0.3                       | 12                 |                    | TO-3(METAL)   |                     |      | Motorola |
| MTM15N40E   | 400                  | 0.3                       | 15                 |                    | TO-3(METAL)   |                     |      | Motorola |
| MTP10N10E   | 100                  | 0.25                      | 10                 |                    | TO-220AB      | 2SK2399             | B    | Motorola |
| MTP10N10EL  | 100                  | 0.22                      | 10                 | 40                 | TO-220AB      | 2SK2399             | B    | Motorola |
| MTP10N15    | 150                  | 0.3                       | 10                 |                    | TO-220AB      | 2SK2382             | B    | Motorola |
| MTP10N40E   | 400                  | 0.55                      | 10                 |                    | TO-220AB      | 2SK2841             | A    | Motorola |
| MTP12N10E   | 100                  | 0.16                      | 12                 |                    | TO-220AB      | 2SK2314             | A    | Motorola |
| MTP12N20    | 200                  | 0.35                      | 12                 |                    | TO-220AB      | 2SK2382             | B    | Motorola |
| MTP12P06    | -60                  | 0.3                       | 12                 |                    | TO-220AB      | 2SJ304              | B    | Motorola |
| MTP12P10    | -100                 | 0.3                       | 12                 |                    | TO-220AB      | 2SJ380              | B    | Motorola |
| MTP13P06V   | -60                  | 0.2                       | 13                 |                    | TO-220AB      | 2SJ438              | B    | Motorola |
| MTP15N05E   | 50                   | 0.1                       | 15                 |                    | TO-220AB      | 2SK2507             | B    | Motorola |
| MTP15N05EL  | 50                   | 0.1                       | 15                 |                    | TO-220AB      | 2SK2507             | B    | Motorola |
| MTP15N06E   | 60                   | 0.12                      | 15                 |                    | TO-220AB      | 2SK2232             | B    | Motorola |
| MTP15N06V   | 60                   | 0.12                      | 15                 |                    | TO-220AB      | 2SK2232             | B    | Motorola |
| MTP15N06VL  | 60                   | 0.085                     | 15                 | 60                 | TO-220AB      | 2SK2232             | B    | Motorola |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender   |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|----------|
| MTP15N15    | 150                  | 0.25                      | 15                 |                    | TO-220AB | 2SK2382             | B    | Motorola |
| MTP16N25E   | 250                  | 0.25                      | 16                 | 125                | TO-220AB | 2SK2508             | B    | Motorola |
| MTP16P06V   | -60                  | 0.16                      | 17                 |                    | TO-220AB | 2SJ349              | B    | Motorola |
| MTP1N100E   | 1000                 | 9                         | 1                  |                    | TO-220AB | 2SK1119             | A    | Motorola |
| MTP1N50E    | 500                  | 5                         | 1                  |                    | TO-220AB | 2SK2661             | A    | Motorola |
| MTP1N60E    | 600                  | 8                         | 1                  |                    | TO-220AB | 2SK3067             | B    | Motorola |
| MTP1N80E    | 800                  | 12                        | 1                  | 48                 | TO-220AB | 2SK2997             | B    | Motorola |
| MTP20N06    | 60                   | 0.085                     | 20                 |                    | TO-220AB | 2SK2232             | B    | Motorola |
| MTP20N06V   | 60                   | 0.085                     | 20                 |                    | TO-220AB | 2SK2232             | B    | Motorola |
| MTP20N20E   | 200                  | 0.16                      | 20                 |                    | TO-220AB | 2SK2382             | B    | Motorola |
| MTP23P06    | -60                  | 0.12                      | 23                 |                    | TO-220AB | 2SJ349              | B    | Motorola |
| MTP23P06V   | -60                  | 0.12                      | 23                 | 125                | TO-220AB | 2SJ349              | B    | Motorola |
| MTP25N06V   | 60                   | 0.06                      | 25                 |                    | TO-220AB | 2SK2232             | B    | Motorola |
| MTP25P06V   | -60                  | 0.09                      | 25                 |                    | TO-220AB | 2SJ349              | B    | Motorola |
| MTP27N10E   | 100                  | 0.07                      | 27                 | 125                | TO-220AB | 2SK2314             | A    | Motorola |
| MTP2955E    | -60                  | 0.3                       | 12                 |                    | TO-220AB | 2SJ438              | B    | Motorola |
| MTP2955V    | -60                  | 0.3                       | 10                 |                    | TO-220AB | 2SJ438              | B    | Motorola |
| MTP2N20     | 200                  | 1.8                       | 2                  |                    | TO-220AB | 2SK2381             | B    | Motorola |
| MTP2N40E    | 400                  | 3.5                       | 2                  |                    | TO-220AB | 2SK2679             | B    | Motorola |
| MTP2N50E    | 500                  | 3.6                       | 2                  |                    | TO-220AB | 2SK2862             | B    | Motorola |
| MTP2N60E    | 600                  | 3.8                       | 2                  |                    | TO-220AB | 2SK3085             | A    | Motorola |
| MTP2P50E    | -500                 | 6                         | 2                  |                    | TO-220AB |                     |      | Motorola |
| MTP3055E    | 60                   | 0.15                      | 12                 |                    | TO-220AB | 2SK2231             | B    | Motorola |
| MTP3055EL   | 60                   | 0.18                      | 12                 |                    | TO-220AB | 2SK2231             | B    | Motorola |
| MTP3055V    | 60                   | 0.15                      | 12                 |                    | TO-220AB | 2SK2231             | B    | Motorola |
| MTP3055VL   | 60                   | 0.18                      | 12                 | 48                 | TO-220AB | 2SK2231             | B    | Motorola |
| MTP30N06EL  | 60                   | 0.05                      | 30                 |                    | TO-220AB | 2SK2232             | B    | Motorola |
| MTP30N06VL  | 60                   | 0.05                      | 30                 | 90                 | TO-220AB | 2SK2232             | B    | Motorola |
| MTP30P06V   | -60                  | 0.06                      | 34                 |                    | TO-220AB | 2SJ349              | B    | Motorola |
| MTP33N10E   | 100                  | 0.06                      | 33                 |                    | TO-220AB | 2SK2466             | B    | Motorola |
| MTP35N06ZL  | 60                   | 0.026                     | 35                 | 94                 | TO-220AB | 2SK2385             | B    | Motorola |
| MTP36N06E   | 60                   | 0.04                      | 36                 |                    | TO-220AB | 2SK2385             | B    | Motorola |
| MTP36N06V   | 60                   | 0.04                      | 32                 |                    | TO-220AB | 2SK2385             | B    | Motorola |
| MTP3N100E   | 1000                 | 4                         | 3                  |                    | TO-220AB | 2SK1119             | A    | Motorola |
| MTP3N120E   | 1200                 | 5                         | 1.5                |                    | TO-220AB |                     |      | Motorola |
| MTP3N25E    | 250                  | 1.4                       | 3                  |                    | TO-220AB | 2SK2840             | B    | Motorola |
| MTP3N50E    | 500                  | 3                         | 3                  |                    | TO-220AB | 2SK2862             | B    | Motorola |
| MTP3N60E    | 600                  | 2.2                       | 3                  |                    | TO-220AB | 2SK3085             | A    | Motorola |
| MTP4N40E    | 400                  | 1.8                       | 4                  |                    | TO-220AB | 2SK2679             | B    | Motorola |
| MTP4N50E    | 500                  | 1.5                       | 4                  |                    | TO-220AB | 2SK2661             | A    | Motorola |
| MTP4N80E    | 800                  | 3                         | 4                  |                    | TO-220AB | 2SK2603             | A    | Motorola |
| MTP50N05E   | 50                   | 0.028                     | 50                 |                    | TO-220AB | 2SK2886             | B    | Motorola |
| MTP50N06E   | 60                   | 0.025                     | 50                 |                    | TO-220AB | 2SK2312             | B    | Motorola |
| MTP50N06EL  | 60                   | 0.028                     | 50                 |                    | TO-220AB | 2SK2385             | B    | Motorola |
| MTP50N06V   | 60                   | 0.028                     | 45                 |                    | TO-220AB | 2SK2385             | B    | Motorola |
| MTP50N06VL  | 60                   | 0.032                     | 42                 | 150                | TO-220AB | 2SK2385             | B    | Motorola |
| MTP50P03HDL | -30                  | 0.03                      | 50                 |                    | TO-220AB |                     |      | Motorola |
| MTP52N06V   | 60                   | 0.022                     | 52                 | 150                | TO-220AB | 2SK2312             | B    | Motorola |
| MTP52N06VL  | 60                   | 0.024                     | 52                 | 150                | TO-220AB | 2SK2312             | B    | Motorola |
| MTP55N06Z   | 60                   | 0.018                     | 55                 | 136                | TO-220AB | 2SK2312             | B    | Motorola |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender   |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|----------|
| MTP5N40E    | 400                  | 1                         | 5                  |                    | TO-220AB | 2SK2679             | B    | Motorola |
| MTP5P06V    | -60                  | 0.45                      | 5                  | 40                 | TO-220AB | 2SJ438              | B    | Motorola |
| MTP5P25     | -250                 | 3                         | 5                  |                    | TO-220AB | 2SJ512              | B    | Motorola |
| MTP60N06HD  | 60                   | 0.014                     | 60                 |                    | TO-220AB | 2SK2312             | B    | Motorola |
| MTP6N10     | 100                  | 0.8                       | 6                  |                    | TO-220AB |                     |      | Motorola |
| MTP6N60E    | 600                  | 1.2                       | 6                  |                    | TO-220AB | 2SK2544             | A    | Motorola |
| MTP6P20E    | -200                 | 1                         | 6                  |                    | TO-220AB | 2SJ407              | B    | Motorola |
| MTP75N03HDL | 30                   | 0.007                     | 75                 |                    | TO-220AB |                     |      | Motorola |
| MTP75N05HD  | 50                   | 0.0095                    | 75                 |                    | TO-220AB | 2SK2985             | B    | Motorola |
| MTP75N06HD  | 60                   | 0.01                      | 75                 |                    | TO-220AB | 2SK2985             | B    | Motorola |
| MTP7N20     | 200                  | 0.7                       | 7                  |                    | TO-220AB | 2SK2381             | B    | Motorola |
| MTP7N20E    | 250                  | 0.7                       | 7                  | 75                 | TO-220AB | 2SK2914             | A    | Motorola |
| MTP7P06     | -60                  | 0.6                       | 7                  |                    | TO-220AB | 2SJ438              | B    | Motorola |
| MTP7P06V    | -60                  | 0.5                       | 7                  |                    | TO-220AB | 2SJ438              | B    | Motorola |
| MTP8N20     | 200                  | 0.4                       | 8                  |                    | TO-220AB | YTA630              | A    | Motorola |
| MTP8N50E    | 500                  | 0.8                       | 8                  |                    | TO-220AB | 2SK2542             | A    | Motorola |
| MTP8P10     | -100                 | 0.4                       | 8                  |                    | TO-220AB | 2SJ380              | B    | Motorola |
| MTP8P20     | -200                 | 0.4                       | 8                  |                    | TO-220AB | 2SJ513              | B    | Motorola |
| MTP9N25E    | 250                  | 0.5                       | 9                  | 75                 | TO-220AB | 2SK2914             | A    | Motorola |
| MTSF1P02HD  | 20                   | 0.16                      | 1.1                |                    | Micro-8  |                     |      | Motorola |
| MTSF2P02HD  | -20                  |                           | -3                 |                    | Micro-8  |                     |      | Motorola |
| MTSF2P03HD  | -30                  | 0.09                      | -2.7               |                    | Micro-8  |                     |      | Motorola |
| MTSF3N02HD  | 20                   | 0.04                      | 4                  |                    | Micro-8  |                     |      | Motorola |
| MTSF3N03HD  | 30                   | 0.045                     | 3                  |                    | Micro-8  |                     |      | Motorola |
| MTV10N100E  | 1000                 | 1.3                       | 10                 | 250                | D3-PAK   |                     |      | Motorola |
| MTV16N50E   | 500                  | 0.4                       | 16                 | 250                | D3-PAK   | 2SK2698             | B    | Motorola |
| MTV20N50E   | 500                  | 0.24                      | 20                 | 250                | D3-PAK   | 2SK3117             | A    | Motorola |
| MTV25N50E   | 500                  | 0.2                       | 25                 | 250                | D3-PAK   | 2SK3117             | A    | Motorola |
| MTV32N20E   | 200                  | 0.075                     | 32                 | 180                | D3-PAK   |                     |      | Motorola |
| MTV32N25E   | 250                  | 0.08                      | 32                 | 250                | D3-PAK   | 2SK2967             | B    | Motorola |
| MTV6N100E   | 1000                 | 1.5                       | 6                  | 178                | D3-PAK   |                     |      | Motorola |
| MTW10N100E  | 1000                 | 1.3                       | 10                 |                    | TO-247   | 2SK1489             | B    | Motorola |
| MTW10N40E   | 400                  | 0.55                      | 10                 |                    | TO-247   | 2SK2841             | B    | Motorola |
| MTW14N50E   | 500                  | 0.32                      | 14                 |                    | TO-247   | 2SK2698             | A    | Motorola |
| MTW14P20    | -200                 | 0.5                       | 14                 |                    | TO-247   | 2SJ513              | B    | Motorola |
| MTW15N25E   | 250                  | 0.28                      | 15                 |                    | TO-247   | 2SK2508             | B    | Motorola |
| MTW16N40E   | 400                  | 0.3                       | 16                 |                    | TO-247   | 2SK2837             | A    | Motorola |
| MTW20N20E   | 200                  | 0.15                      | 20                 |                    | TO-247   | YTA640              | B    | Motorola |
| MTW20N50E   | 500                  | 0.24                      | 20                 |                    | TO-247   | 2SK2837             | A    | Motorola |
| MTW20P10    | -100                 | 0.15                      | 20                 |                    | TO-247   | 2SJ464              | B    | Motorola |
| MTW23N25E   | 250                  | 0.14                      | 23                 |                    | TO-247   | 2SK2967             | A    | Motorola |
| MTW24N40E   | 400                  | 0.16                      | 24                 |                    | TO-247   | 2SK1544             | B    | Motorola |
| MTW26N15E   | 150                  | 0.095                     | 13                 |                    | TO-247   |                     |      | Motorola |
| MTW32N20E   | 200                  | 0.075                     | 32                 |                    | TO-247   | 2SK3176             | A    | Motorola |
| MTW32N25E   | 250                  | 0.1                       | 32                 |                    | TO-247   | 2SK2967             | A    | Motorola |
| MTW33N10E   | 100                  | 0.058                     | 33                 |                    | TO-247   | 2SK2466             | B    | Motorola |
| MTW35N15E   | 150                  | 0.065                     | 35                 |                    | TO-247   |                     |      | Motorola |
| MTW45N10E   | 100                  | 0.035                     | 45                 |                    | TO-247   | 2SK1381             | A    | Motorola |
| MTW4N80E    | 800                  | 3                         | 4                  |                    | TO-247   | 2SK2603             | B    | Motorola |
| MTW54N05E   | 50                   | 0.014                     | 54                 |                    | TO-247   | 2SK2551             | A    | Motorola |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package        | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------------|---------------------|------|-----------|
| MTW6N100E   | 1000                 | 1.5                       | 6                  |                    | TO-247         | 2SK2613             | A    | Motorola  |
| MTW6N60E    | 600                  | 1.2                       | 6                  |                    | TO-247         | 2SK2602             | A    | Motorola  |
| MTW7N80E    | 800                  | 1                         | 7                  |                    | TO-247         | 2SK2607             | A    | Motorola  |
| MTW8N50E    | 500                  | 0.6                       | 8                  |                    | TO-247         | 2SK2600             | B    | Motorola  |
| MTW8N60E    | 600                  | 0.5                       | 8                  |                    | TO-247         | 2SK2915             | A    | Motorola  |
| MTY100N10E  | 100                  | 0.01                      | 100                |                    | TO-264         |                     |      | Motorola  |
| MTY10N100E  | 1000                 | 1.3                       | 10                 |                    | TO-264         | 2SK1489             | A    | Motorola  |
| MTY14N100E  | 1000                 | 0.8                       | 14                 | 568                | TO-264         | 2SK1489             | A    | Motorola  |
| MTY16N80E   | 800                  | 0.5                       | 16                 | 568                | TO-264         |                     |      | Motorola  |
| MTY20N50E   | 500                  | 0.26                      | 20                 | 300                | TO-264         | 2SK2837             | B    | Motorola  |
| MTY25N60E   | 600                  | 0.5                       | 25                 |                    | TO-264         | 2SK2915             | B    | Motorola  |
| MTY30N50E   | 500                  | 0.14                      | 30                 |                    | TO-264         | 2SK1544             | A    | Motorola  |
| MTY55N20E   | 200                  | 0.028                     | 55                 |                    | TO-264         |                     |      | Motorola  |
| NDC631N     | 20                   | 0.06                      | 4.1                | 1.6                | SSOT-6(Single) |                     |      | Fairchild |
| NDC632P     | -20                  | 0.14                      | -2.7               | 1.6                | SSOT-6(Single) |                     |      | Fairchild |
| NDC651N     | 30                   | 0.06                      | 3.2                | 1.6                | SSOT-6(Single) |                     |      | Fairchild |
| NDC652P     | -30                  | 0.11                      | -2.4               | 1.6                | SSOT-6(Single) |                     |      | Fairchild |
| NDC7001C    | 50/-50               | 2/5                       | 0.51/-0.34         | 0.96               | SSOT-6(P&N)    |                     |      | Fairchild |
| NDC7002N    | 50                   | 2                         | 0.51               | 0.96               | SSOT-6(Dual)   |                     |      | Fairchild |
| NDC7003P    | -50                  | 5                         | -0.34              | 0.96               | SSOT-6(Dual)   |                     |      | Fairchild |
| NDF0610     | -60                  | 10                        | -0.18              | 0.8                | TO-92          |                     |      | Fairchild |
| NDH8301N    | 20                   | 0.06                      | 3                  | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH8302P    | -20                  | 0.13                      | -2                 | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH8303N    | 20                   | 0.035                     | 3.8                | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH8304P    | -20                  | 0.07                      | -2.7               | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH831N     | 20                   | 0.03                      | 5.8                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH8320C    | 20/-20               | 0.06/0.13                 | 3/-2               | 0.8                | SSOT-8(P&N)    |                     |      | Fairchild |
| NDH8321C    | 20/-20               | 0.035/0.07                | 3.8/-2.7           | 0.8                | SSOT-8(P&N)    |                     |      | Fairchild |
| NDH832P     | -20                  | 0.06                      | -4.2               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH833N     | 20                   | 0.02                      | 7.1                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH834P     | -20                  | 0.035                     | -5.6               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH8436     | 30                   | 0.03                      | 5.8                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH8447     | -30                  | 0.053                     | -4.4               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH8501N    | 30                   | 0.07                      | 2.8                | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH8502P    | -30                  | 0.11                      | -2.2               | 0.8                | SSOT-8(Dual)   | SSM8J01FU           | B    | Fairchild |
| NDH8503N    | 30                   | 0.033                     | 3.8                | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH8504P    | -30                  | 0.07                      | -2.7               | 0.8                | SSOT-8(Dual)   |                     |      | Fairchild |
| NDH8520C    | 30/-30               | 0.07/0.11                 | 2.8/-2.2           | 0.8                | SSOT-8(P&N)    |                     |      | Fairchild |
| NDH8521C    | 30/-30               | 0.033/0.07                | 3.8/-2.7           | 0.8                | SSOT-8(P&N)    |                     |      | Fairchild |
| NDH853N     | 30                   | 0.017                     | 7.6                | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDH854P     | -30                  | 0.032                     | -5.1               | 1.8                | SSOT-8(Single) |                     |      | Fairchild |
| NDM3000     | 30/-30               | 0.09/0.16                 | 3/-3               | 2.5                | SOIC-16(3NP)   |                     |      | Fairchild |
| NDM3001     | 30/-30               | 0.115/0.24                | 2.9/-2.9           | 2.5                | SOIC-16(3NP)   |                     |      | Fairchild |
| NDP4050     | 50                   | 0.1                       | 15                 | 50                 | TO-220AB       |                     |      | Fairchild |
| NDP4050L    | 50                   | 0.18                      | 15                 | 50                 | TO-220AB       |                     |      | Fairchild |
| NDP4060     | 60                   | 0.1                       | 15                 | 50                 | TO-220AB       | 2SK2232             | B    | Fairchild |
| NDP4060L    | 60                   | 0.08                      | 15                 | 50                 | TO-220AB       | 2SK2232             | B    | Fairchild |
| NDP408A     | 80                   | 0.16                      | 12                 | 50                 | TO-220AB       |                     |      | Fairchild |
| NDP410A     | 100                  | 0.25                      | 9                  | 50                 | TO-220AB       | 2SK2399             | B    | Fairchild |
| NDP5060     | 60                   | 0.05                      | 26                 | 60                 | TO-220AB       | 2SK2232             | B    | Fairchild |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|-----------|
| NDP5060L    | 60                   | 0.035                     | 26                 | 60                 | TO-220AB      | 2SK2385             | B    | Fairchild |
| NDP508A     | 80                   | 0.08                      | 19                 | 75                 | TO-220AB      |                     |      | Fairchild |
| NDP510A     | 100                  | 0.12                      | 15                 | 75                 | TO-220AB      | 2SK2314             | A    | Fairchild |
| NDP6020     | 20                   | 0.023                     | 35                 | 50                 | TO-220AB      |                     |      | Fairchild |
| NDP6020P    | -20                  | 0.05                      | -24                | 50                 | TO-220AB      |                     |      | Fairchild |
| NDP6030L    | 30                   | 0.0135                    | 52                 | 75                 | TO-220AB      | 2SK3127             | B    | Fairchild |
| NDP6030PL   | -30                  | 0.025                     | -30                | 75                 | TO-220AB      |                     |      | Fairchild |
| NDP603AL    | 30                   | 0.022                     | 25                 | 50                 | TO-220AB      | 2SK2844             | A    | Fairchild |
| NDP6050     | 50                   | 0.025                     | 48                 | 100                | TO-220AB      | 2SK2886             | B    | Fairchild |
| NDP6050L    | 50                   | 0.02                      | 48                 | 100                | TO-220AB      | 2SK2886             | B    | Fairchild |
| NDP6051     | 50                   | 0.022                     | 48                 | 100                | TO-220AB      | 2SK2886             | B    | Fairchild |
| NDP6051L    | 50                   | 0.018                     | 48                 | 100                | TO-220AB      | 2SK2886             | B    | Fairchild |
| NDP6060     | 60                   | 0.025                     | 48                 | 100                | TO-220AB      | 2SK2312             | B    | Fairchild |
| NDP6060L    | 60                   | 0.02                      | 48                 | 100                | TO-220AB      | 2SK2312             | B    | Fairchild |
| NDP608A     | 80                   | 0.042                     | 36                 | 100                | TO-220AB      | 2SK2466             | B    | Fairchild |
| NDP610A     | 100                  | 0.065                     | 26                 | 100                | TO-220AB      | 2SK2314             | B    | Fairchild |
| NDP7050     | 50                   | 0.013                     | 75                 | 150                | TO-220AB      |                     |      | Fairchild |
| NDP7050L    | 50                   | 0.01                      | 75                 | 150                | TO-220AB      |                     |      | Fairchild |
| NDP7051     | 50                   | 0.013                     | 70                 | 130                | TO-220AB      |                     |      | Fairchild |
| NDP7051L    | 50                   | 0.0115                    | 67                 | 130                | TO-220AB      |                     |      | Fairchild |
| NDP7052     | 50                   | 0.01                      | 75                 | 150                | TO-220AB      |                     |      | Fairchild |
| NDP7052L    | 50                   | 0.0075                    | 75                 | 150                | TO-220AB      | 2SK2985             | B    | Fairchild |
| NDP7060     | 60                   | 0.013                     | 75                 | 150                | TO-220AB      | 2SK2985             | B    | Fairchild |
| NDP7060L    | 60                   | 0.01                      | 75                 | 150                | TO-220AB      | 2SK2985             | B    | Fairchild |
| NDP7061     | 60                   | 0.016                     | 64                 | 130                | TO-220AB      | 2SK2312             | B    | Fairchild |
| NDP7061L    | 60                   | 0.013                     | 60                 | 130                | TO-220AB      | 2SK2985             | B    | Fairchild |
| NDP708A     | 80                   | 0.022                     | 60                 | 150                | TO-220AB      |                     |      | Fairchild |
| NDP710A     | 100                  | 0.038                     | 42                 | 150                | TO-220AB      |                     |      | Fairchild |
| NDS0605     | -60                  | 5                         | -0.18              | 0.36               | SOT-23        | 2SJ168              | A    | Fairchild |
| NDS0610     | -60                  | 10                        | -0.12              | 0.36               | SOT-23        | 2SJ168              | A    | Fairchild |
| NDS331N     | 20                   | 0.16                      | 1.3                | 0.5                | SOT-23        | SSM3K01F            | A    | Fairchild |
| NDS332P     | -20                  | 0.3                       | -1                 | 0.5                | SOT-23        | SSM3J01F            | A    | Fairchild |
| NDS335N     | 20                   | 0.11                      | 1.7                | 0.5                | SOT-23        | SSM3K01F            | A    | Fairchild |
| NDS336P     | -20                  | 0.2                       | -1.2               | 0.5                | SOT-23        |                     |      | Fairchild |
| NDS351AN    | 30                   | 0.16                      | 1.2                | 0.5                | SOT-23        | SSM3K01F            | A    | Fairchild |
| NDS351N     | 30                   | 0.16                      | 1.1                | 0.5                | SOT-23        | SSM3K01F            | A    | Fairchild |
| NDS352AP    | -30                  | 0.3                       | -0.9               | 0.5                | SOT-23        | SSM3J01F            | A    | Fairchild |
| NDS352P     | -20                  | 0.35                      | -0.85              | 0.5                | SOT-23        | SSM3J01F            | A    | Fairchild |
| NDS355AN    | 30                   | 0.085                     | 1.7                | 0.5                | SOT-23        |                     |      | Fairchild |
| NDS355N     | 30                   | 0.085                     | 1.6                | 0.5                | SOT-23        |                     |      | Fairchild |
| NDS356AP    | -30                  | 0.2                       | -1.1               | 0.5                | SOT-23        |                     |      | Fairchild |
| NDS356P     | -20                  | 0.21                      | -1.1               | 0.5                | SOT-23        |                     |      | Fairchild |
| NDS7002A    | 60                   | 2                         | 0.28               | 0.3                | SOT-23        | 2SK1062             | A    | Fairchild |
| NDS8330     | -20                  | 0.03                      | -6.5               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS8410     | 30                   | 0.015                     | 10                 |                    | SOP-8(Single) | TPC8005-H           | A    | Fairchild |
| NDS8410A    | 30                   | 0.012                     | 10.8               |                    | SOP-8(Single) | TPC8007-H           | A    | Fairchild |
| NDS8410S    | 30                   | 0.02                      | 8.6                |                    | SOP-8(Single) | TPC8001             | A    | Fairchild |
| NDS8425     | 20                   | 0.025                     | 7.4                |                    | SOP-8(Single) | TPC8008             | A    | Fairchild |
| NDS8426     | 20                   | 0.015                     | 9.9                |                    | SOP-8(Single) | TPC8008             | A    | Fairchild |
| NDS8426A    | 20                   | 0.0135                    | 10.5               |                    | SOP-8(Single) | TPC8008             | A    | Fairchild |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|-----------|
| NDS8433     | -20                  | 0.055                     | -5.2               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS8434     | -20                  | 0.035                     | -6.5               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS8434A    | -20                  | 0.024                     | -7.8               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS8435     | -30                  | 0.028                     | -7                 |                    | SOP-8(Single) | TPC8106-H           | A    | Fairchild |
| NDS8435A    | -30                  | 0.023                     | -7.9               |                    | SOP-8(Single) | TPC8106-H           | A    | Fairchild |
| NDS8839H    | 30/-30               | 0.045/0.09                | 5.7/4              |                    | SOP-8(P&N)    | TPC8401             | A    | Fairchild |
| NDS8852H    | 30                   | 0.08                      | 4.3                |                    | SOP-8(Single) | TPC8004             | A    | Fairchild |
| NDS8852H    | 30/-30               | 0.11/0.2                  | 4.3/-3.4           | 2.5                | SOP-8(P&N)    |                     |      | Fairchild |
| NDS8858H    | 30/-30               | 0.035/0.065               | 6.3/-4.8           |                    | SOP-8(P&N)    | TPC8401             | A    | Fairchild |
| NDS8926     | 20                   | 0.035                     | 5.5                |                    | SOP-8(Dual)   | TPC8204             | A    | Fairchild |
| NDS8928     | 20/-20               | 0.035/0.07                | 5.5/3.8            |                    | SOP-8(P&N)    |                     |      | Fairchild |
| NDS8934     | -20                  | 0.07                      | -3.8               |                    | SOP-8(Dual)   |                     |      | Fairchild |
| NDS8936     | 30                   | 0.035                     | 5.3                |                    | SOP-8(Dual)   | TPCT8203            | A    | Fairchild |
| NDS8947     | -30                  | 0.065                     | -4                 |                    | SOP-8(Dual)   | TPC8303             | A    | Fairchild |
| NDS8958     | 30/-30               | 0.035/0.065               | 5.3/-4             |                    | SOP-8(P&N)    | TPC8401             | A    | Fairchild |
| NDS8961     | 30                   | 0.1                       | 3.1                |                    | SOP-8(Dual)   | TPC8201             | A    | Fairchild |
| NDS8963     | 30                   | 0.16                      | 2.5                |                    | SOP-8(Dual)   |                     |      | Fairchild |
| NDS9400A    | -30                  | 0.13                      | -3.4               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS9405     | -20                  | 0.1                       | -4.3               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS9407     | -60                  | 0.15                      | -3                 |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS9410A    | 30                   | 0.028                     | 7.3                |                    | SOP-8(Single) | TPC8006-H           | A    | Fairchild |
| NDS9410S    | 30                   | 0.03                      | 7                  |                    | SOP-8(Single) | TPC8006-H           | A    | Fairchild |
| NDS9430     | -20                  | 0.06                      | -5.3               |                    | SOP-8(Single) |                     |      | Fairchild |
| NDS9435     | -30                  | 0.07                      | -4.6               |                    | SOP-8(Single) | TPC8104-H           | A    | Fairchild |
| NDS9435A    | -30                  | 0.05                      | -5.3               |                    | SOP-8(Single) | TPC8105-H           | A    | Fairchild |
| NDS9925A    | 20                   | 0.06                      | 4.2                |                    | SOP-8(Dual)   | TPC8202             | A    | Fairchild |
| NDS9933     | -20                  | 0.11                      | -3.2               |                    | SOP-8(Dual)   | TPC8302             | A    | Fairchild |
| NDS9933A    | -20                  | 0.14                      | -2.7               |                    | SOP-8(Dual)   | TPC8302             | A    | Fairchild |
| NDS9936     | 30                   | 0.05                      | 5                  |                    | SOP-8(Dual)   | TPC8201             | A    | Fairchild |
| NDS9942     | 20/-20               | 0.125/0.2                 | 3/-2.5             |                    | SOP-8(P&N)    |                     |      | Fairchild |
| NDS9943     | 20/-25               | 0.125/0.16                | 3/-2.8             |                    | SOP-8(P&N)    |                     |      | Fairchild |
| NDS9945     | 60                   | 0.1                       | 3.5                |                    | SOP-8(Dual)   |                     |      | Fairchild |
| NDS9947     | -20                  | 0.1                       | -3.5               |                    | SOP-8(Dual)   | TPC8302             | A    | Fairchild |
| NDS9948     | -60                  | 0.25                      | -2.3               |                    | SOP-8(Dual)   | TPC8304             | A    | Fairchild |
| NDS9952A    | 30/-30               | 0.08/0.13                 | 3.7/-2.9           |                    | SOP-8(P&N)    | TPC8401             | A    | Fairchild |
| NDS9952A    | 30/-30               | 0.08/0.13                 | 3.7/-2.9           | 2                  | SOP-8(P&N)    | TPC8401             | A    | Fairchild |
| NDS9953A    | -30                  | 0.13                      | -2.9               |                    | SOP-8(Dual)   | TPC8301             | A    | Fairchild |
| NDS9955     | 50                   | 0.13                      | 3                  |                    | SOP-8(Dual)   | TPC8205             | A    | Fairchild |
| NDS9956A    | 30                   | 0.08                      | 3.7                |                    | SOP-8(Dual)   | TPC8201             | A    | Fairchild |
| NDS9957     | 60                   | 0.16                      | 2.6                |                    | SOP-8(Dual)   | TPC8205             | A    | Fairchild |
| NDS9958     | 20/-20               | 0.1/0.1                   | 3.5/-3.5           |                    | SOP-8(P&N)    |                     |      | Fairchild |
| NDS9958     | 20/-20               | 0.1/0.1                   | 3.5/-3.5           | 2                  | SOP-8(P&N)    |                     |      | Fairchild |
| NDS9959     | 50                   | 0.3                       | 2                  |                    | SOP-8(Dual)   | TPC8205             | A    | Fairchild |
| NDT014      | 60                   | 0.2                       | 2.7                | 3                  | SOT-223       | 2SK2741             | A    | Fairchild |
| NDT014L     | 60                   | 0.16                      | 2.8                | 3                  | SOT-223       | 2SK2741             | A    | Fairchild |
| NDT2955     | -60                  | 0.3                       | -2.5               | 3                  | SOT-223       | 2SJ482              | A    | Fairchild |
| NDT3055     | 60                   | 0.1                       | 4                  | 3                  | SOT-223       |                     |      | Fairchild |
| NDT3055L    | 60                   | 0.1                       | 3.7                | 3                  | SOT-223       |                     |      | Fairchild |
| NDT410EL    | 100                  | 0.25                      | 2.1                | 3                  | SOT-223       |                     |      | Fairchild |
| NDT451AN    | 30                   | 0.035                     | 7.2                | 3                  | SOT-223       | 2SK2839             | A    | Fairchild |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package     | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|-------------|---------------------|------|-----------|
| NDT451N     | 30                   | 0.05                      | 5.5                | 3                  | SOT-223     | 2SK2839             | A    | Fairchild |
| NDT452AP    | -30                  | 0.065                     | -5                 | 3                  | SOT-223     |                     |      | Fairchild |
| NDT452P     | -30                  | 0.18                      | -3                 | 3                  | SOT-223     |                     |      | Fairchild |
| NDT453N     | 30                   | 0.028                     | 8                  | 3                  | SOT-223     |                     |      | Fairchild |
| NDT454P     | -30                  | 0.05                      | -5.9               | 3                  | SOT-223     |                     |      | Fairchild |
| NDT455N     | 30                   | 0.015                     | 11.5               | 3                  | SOT-223     |                     |      | Fairchild |
| NDT456P     | -30                  | 0.03                      | -7.5               | 3                  | SOT-223     |                     |      | Fairchild |
| PHB36N06E   | 60                   | 0.038                     | 41                 | 125                | D2PAK       | 2SK2266             | A    | Philips   |
| PHP10N10E   | 100                  | 0.038                     | 41                 | 125                | TO220AB     |                     |      | Philips   |
| PHP10N40E   | 400                  | 0.55                      | 10                 | 125                | TO220AB     | 2SK2841             | A    | Philips   |
| PHP12N10E   | 100                  | 0.16                      | 14                 | 75                 | TO220AB     | 2SK2314             | A    | Philips   |
| PHP15N06E   | 60                   | 0.13                      | 15                 | 60                 | TO220AB     | 2SK2231             | B    | Philips   |
| PHP18N20E   | 200                  | 0.18                      | 18                 | 136                | TO220AB     | YTA640              | A    | Philips   |
| PHP1N50E    | 500                  | 5                         | 2                  | 50                 | TO220AB     | 2SK2862             | B    | Philips   |
| PHP1N60E    | 600                  | 6                         | 1.9                | 50                 | TO220AB     | 2SK3067             | B    | Philips   |
| PHP20N06E   | 60                   | 0.08                      | 22                 | 75                 | TO220AB     | 2SK2232             | B    | Philips   |
| PHP26N10E   | 100                  | 0.08                      | 26                 | 125                | TO220AB     | 2SK2314             | A    | Philips   |
| PHP2N40E    | 400                  | 3.5                       | 2.5                | 50                 | TO220AB     | 2SK2862             | B    | Philips   |
| PHP2N60E    | 600                  | 4.4                       | 2.6                | 75                 | TO220AB     | 2SK3067             | B    | Philips   |
| PHP3055E    | 60                   | 0.15                      | 12                 | 40                 | TO220AB     | 2SK2231             | B    | Philips   |
| PHP3055L    | 60                   | 0.18                      | 12                 | 40                 | TO220AB     | 2SK2231             | B    | Philips   |
| PHP33N10    | 100                  | 0.057                     | 34                 | 150                | TO220AB     | 2SK2466             | B    | Philips   |
| PHP36N06E   | 60                   | 0.038                     | 41                 | 125                | TO220AB     | 2SK2385             | B    | Philips   |
| PHP3N20E    | 200                  | 1.5                       | 3.5                | 20                 | TO220AB     | 2SK2381             | B    | Philips   |
| PHP3N50E    | 500                  | 3                         | 3.2                | 75                 | TO220AB     | 2SK2862             | B    | Philips   |
| PHP3N60E    | 600                  | 2.2                       | 4.3                | 100                | TO220AB     | 2SK3085             | A    | Philips   |
| PHP4N40E    | 400                  | 1.8                       | 4.2                | 75                 | TO220AB     | 2SK2679             | B    | Philips   |
| PHP4N50E    | 500                  | 1.5                       | 5.3                | 100                | TO220AB     | 2SK2661             | A    | Philips   |
| PHP50N06    | 60                   | 0.028                     | 52                 | 150                | TO220AB     | 2SK2385             | B    | Philips   |
| PHP5N20E    | 200                  | 0.8                       | 5                  | 40                 | TO220AB     | 2SK2381             | B    | Philips   |
| PHP5N40E    | 400                  | 1                         | 6.5                | 100                | TO220AB     | 2SK2679             | B    | Philips   |
| PHP6N60E    | 600                  | 1.2                       | 6.5                | 125                | TO220AB     | 2SK2544             | A    | Philips   |
| PHP8N20E    | 200                  | 0.4                       | 9.2                | 90                 | TO220AB     | YTA630              | A    | Philips   |
| PHP8N50E    | 500                  | 0.8                       | 8                  | 125                | TO220AB     |                     |      | Philips   |
| PHX15N06E   | 60                   | 0.08                      | 13                 | 25                 | TO-220IS    | 2SK2232             | A    | Philips   |
| PHX1N40E    | 400                  | 3.5                       | 1.75               | 25                 | TO-220IS    | 2SK2862             | A    | Philips   |
| PHX1N50E    | 500                  | 5                         | 1.4                | 25                 | TO-220IS    | 2SK2862             | A    | Philips   |
| PHX1N60E    | 600                  | 6                         | 1.3                | 25                 | TO-220IS    | 2SK3067             | A    | Philips   |
| PHX2N40E    | 400                  | 1.8                       | 2.4                | 25                 | TO-220IS    | 2SK2679             | A    | Philips   |
| PHX2N50E    | 500                  | 3                         | 1.9                | 25                 | TO-220IS    | 2SK2862             | A    | Philips   |
| PHX2N60E    | 600                  | 2.2                       | 2.4                | 30                 | TO-220IS    | 2SK2750             | A    | Philips   |
| PHX4N40E    | 400                  | 1                         | 3.6                | 30                 | TO-220IS    | 2SK2679             | A    | Philips   |
| PHX4N50E    | 500                  | 1.5                       | 2.9                | 30                 | TO-220IS    | 2SK2662             | A    | Philips   |
| PHX4N60E    | 600                  | 1.2                       | 3.2                | 30                 | TO-220IS    | 2SK2545             | A    | Philips   |
| PHX5N40E    | 400                  | 0.55                      | 4.9                | 30                 | TO-220IS    | 2SK2952             | A    | Philips   |
| PHX5N50E    | 500                  | 0.8                       | 4                  | 30                 | TO-220IS    |                     |      | Philips   |
| RF1K49086   | 30                   | 0.06                      | 3.5                |                    | SOP-8(Dual) | TPC8201             | A    | Harris    |
| RF1K49088   | 30                   | 0.06                      | 3.5                |                    | SOP-8(Dual) | TPC8201             | A    | Harris    |
| RF1K49090   | 12                   | 0.05                      | 3.5                |                    | SOP-8(Dual) |                     |      | Harris    |
| RF1K49092   | 12/-12               | 0.05/0.13                 | 3.5/-2.5           |                    | SOP-8(P&N)  |                     |      | Harris    |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender |
|---------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|--------|
| RF1K49092     | 12/-12               | 0.05/0.13                 | 3.5/2.5            |                    | SOP-8(P&N)    |                     |      | Harris |
| RF1K49093     | -12                  | 0.13                      | -2.5               |                    | SOP-8(Dual)   |                     |      | Harris |
| RF1K49093     | -12                  | 0.13                      | -3.5               |                    | SOP-8(Single) |                     |      | Harris |
| RF1K49154     | 60                   | 0.13                      | 2                  |                    | SOP-8(Dual)   | TPC8205             | A    | Harris |
| RF1K49156     | 30                   | 0.03                      | 6.3                |                    | SOP-8(Single) | TPC8001             | A    | Harris |
| RF1K49156     | 30                   | 0.03                      | 6.3                |                    | SOP-8(Single) | TPC8006-H           | A    | Harris |
| RF1K49157     | 30                   | 0.03                      | 6.3                |                    | SOP-8(Single) | TPC8006-H           | A    | Harris |
| RF1K49211     | 12                   | 0.02                      | 7                  |                    | SOP-8(Single) |                     |      | Harris |
| RF1K49221     | 60                   | 0.13                      | 2.5                |                    | SOP-8(Dual)   | TPC8205             | A    | Harris |
| RF1K49223     | -30                  | 0.15                      | -2.5               |                    | SOP-8(Dual)   | TPC8301             | A    | Harris |
| RF1K49224     | 30/-30               | 0.06/0.15                 | 3.5/-2.5           |                    | SOP-8(P&N)    | TPC8401             | A    | Harris |
| RF1S15N06SM   | 60                   | 0.014                     | 15                 |                    | D2-PAK        | 2SK2376             | A    | Harris |
| RF1S17N06LSM  | 60                   | 0.1                       | 17                 |                    | D2-PAK        | 2SK2782             | B    | Harris |
| RF1S22N10SM   | 100                  | 0.08                      | 22                 |                    | D2-PAK        | 2SK2789             | A    | Harris |
| RF1S23N06LESM | 60                   | 0.065                     | 23                 |                    | D2-PAK        | 2SK2311             | A    | Harris |
| RF1S25N06SM   | 60                   | 0.047                     | 25                 |                    | D2-PAK        | 2SK2311             | A    | Harris |
| RF1S30N06LESM | 60                   | 0.047                     | 30                 |                    | D2-PAK        | 2SK2311             | A    | Harris |
| RF1S30P05SM   | -50                  | 0.065                     | -30                |                    | D2-PAK        | 2SJ401              | A    | Harris |
| RF1S30P06SM   | -60                  | 0.075                     | -30                |                    | D2-PAK        | 2SJ401              | A    | Harris |
| RF1S40N10SM   | 100                  | 0.04                      | 30                 |                    | D2-PAK        | 2SK2466             | B    | Harris |
| RF1S45N03LSM  | 30                   | 0.022                     | 45                 |                    | D2-PAK        | 2SK3090             | A    | Harris |
| RF1S45N06LESM | 60                   | 0.028                     | 45                 |                    | D2-PAK        | 2SK2266             | A    | Harris |
| RF1S45N06SM   | 60                   | 0.028                     | 45                 |                    | D2-PAK        | 2SK2266             | A    | Harris |
| RF1S4N100SM   | 1000                 | 3.5                       | 4.3                |                    | D2-PAK        | 2SK1930             | A    | Harris |
| RF1S50N06LESM | 60                   | 0.022                     | 50                 |                    | D2-PAK        | 2SK2376             | A    | Harris |
| RF1S50N06SM   | 60                   | 0.022                     | 50                 |                    | D2-PAK        | 2SK2376             | A    | Harris |
| RF1S530SM     | 100                  | 0.16                      | 14                 |                    | D2-PAK        | 2SK2789             | A    | Harris |
| RF1S540SM     | 100                  | 0.077                     | 28                 |                    | D2-PAK        | 2SK2789             | A    | Harris |
| RF1S60P03SM   | -30                  | 0.027                     | -60                |                    | D2-PAK        |                     |      | Harris |
| RF1S630SM     | 200                  | 0.4                       | 9                  |                    | D2-PAK        | 2SK2401             | A    | Harris |
| RF1S640SM     | 200                  | 0.18                      | 18                 |                    | D2-PAK        | 2SK2401             | A    | Harris |
| RF1S70N03SM   | 30                   | 0.01                      | 70                 |                    | D2-PAK        | 2SK3127             | A    | Harris |
| RF1S70N06SM   | 60                   | 0.014                     | 70                 |                    | D2-PAK        | 2SK2376             | A    | Harris |
| RF1S9530SM    | 100                  | 0.3                       | 12                 |                    | D2-PAK        |                     |      | Harris |
| RF1S9540SM    | 100                  | 0.2                       | 19                 |                    | D2-PAK        | 2SK2399             | B    | Harris |
| RF1S9630SM    | 200                  | 0.8                       | 6.5                |                    | D2-PAK        | 2SK2920             | B    | Harris |
| RF1S9640SM    | 200                  | 0.5                       | 11                 |                    | D2-PAK        | 2SK2350             | B    | Harris |
| RFA100N05E    | 50                   | 0.01                      | 100                |                    | MO-093        |                     |      | Harris |
| RFB18N10CS    | 100                  | 0.1                       | 18                 |                    | TO-220 5PIN   |                     |      | Harris |
| RFD10P03LSM   | -30                  | 0.2                       | -10                |                    | D-PAK         |                     |      | Harris |
| RFD12N06LESM  | 60                   | 0.135                     | 12                 |                    | TO-252        | 2SK2231             | A    | Harris |
| RFD12N06RLE   | 60                   | 0.135                     | 12                 |                    | TO-251        | 2SK2231             | A    | Harris |
| RFD14N05      | 50                   | 0.1                       | 14                 |                    | TO-251        | 2SK2231             | A    | Harris |
| RFD14N05L     | 50                   | 0.1                       | 14                 |                    | TO-251        | 2SK2231             | A    | Harris |
| RFD14N05LSM   | 50                   | 0.1                       | 14                 |                    | TO-252        | 2SK2231             | A    | Harris |
| RFD14N05SM    | 50                   | 0.1                       | 14                 |                    | TO-252        | 2SK2231             | A    | Harris |
| RFD14N06LSM   | 60                   | 0.1                       | 14                 |                    | D-PAK         | 2SK2782             | A    | Harris |
| RFD14N06SM    | 60                   | 0.1                       | 14                 |                    | D-PAK         | 2SK2782             | A    | Harris |
| RFD15N06LESM  | 60                   | 0.065                     | 15                 |                    | D-PAK         | 2SK2782             | A    | Harris |
| RFD15P05      | -50                  | 0.15                      | 15                 |                    | TO-251        | 2SJ377              | A    | Harris |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender |
|--------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|--------|
| RFD15P05SM   | -50                  | 0.15                      | 15                 |                    | TO-252   | 2SJ377              | A    | Harris |
| RFD15P06SM   | -60                  | 0.15                      | -15                |                    | D-PAK    | 2SJ377              | A    | Harris |
| RFD16N03LSM  | 30                   | 0.022                     | 16                 |                    | D-PAK    |                     |      | Harris |
| RFD16N05     | 50                   | 0.047                     | 16                 |                    | TO-251   | 2SK2231             | A    | Harris |
| RFD16N05L    | 50                   | 0.047                     | 16                 |                    | TO-251   | 2SK2231             | A    | Harris |
| RFD16N05LSM  | 50                   | 0.047                     | 16                 |                    | TO-252   | 2SK2231             | A    | Harris |
| RFD16N05SM   | 50                   | 0.047                     | 16                 |                    | TO-252   | 2SK2231             | A    | Harris |
| RFD16N06LESM | 60                   | 0.047                     | 16                 |                    | D-PAK    | 2SK2782             | A    | Harris |
| RFD16N06SM   | 60                   | 0.047                     | 16                 |                    | D-PAK    | 2SK2782             | A    | Harris |
| RFD3055LESM  | 60                   | 0.15                      | 12                 |                    | D-PAK    | 2SK2231             | A    | Harris |
| RFD3055RLE   | 60                   | 0.16                      | 12                 |                    | TO-251   | 2SK2231             | A    | Harris |
| RFD3055RLESM | 60                   | 0.16                      | 12                 |                    | TO-252   | 2SK2231             | A    | Harris |
| RFD3055SM    | 60                   | 0.15                      | 12                 |                    | D-PAK    | 2SK2231             | A    | Harris |
| RFD3N08L     | 80                   | 0.8                       | 3                  |                    | TO-251   | 2SK2201             | A    | Harris |
| RFD3N08LSM   | 80                   | 0.8                       | 3                  |                    | TO-252   | 2SK2201             | A    | Harris |
| RFD4N06L     | 60                   | 0.6                       | 4                  |                    | TO-251   | 2SK2231             | A    | Harris |
| RFD4N06LSM   | 60                   | 0.6                       | 4                  |                    | TO-252   | 2SK2231             | A    | Harris |
| RFD7N10LEEM  | 100                  | 0.3                       | 7                  |                    | D-PAK    | 2SK2201             | A    | Harris |
| RFD8P03L     | -30                  | 0.3                       | 8                  |                    | TO-251   |                     |      | Harris |
| RFD8P03LSM   | -30                  | 0.3                       | 8                  |                    | TO-252   |                     |      | Harris |
| RFD8P05      | -50                  | 0.3                       | 8                  |                    | TO-251   | 2SJ377              | A    | Harris |
| RFD8P05SM    | -50                  | 0.3                       | 8                  |                    | TO-252   | 2SJ377              | A    | Harris |
| RFD8P06ESM   | -60                  | 0.3                       | -8                 |                    | D-PAK    | 2SJ377              | A    | Harris |
| RFG30P05     | -50                  | 0.065                     | 30                 |                    | TO-247   | 2SJ402              | A    | Harris |
| RFG30P06     | -50                  | 0.075                     | 30                 |                    | TO-247   | 2SJ402              | A    | Harris |
| RFG40N10     | 100                  | 0.04                      | 40                 |                    | TO-247   | 2SK2466             | B    | Harris |
| RFG50N05     | 50                   | 0.022                     | 50                 |                    | TO-247   | 2SK2445             | A    | Harris |
| RFG50N05L    | 50                   | 0.022                     | 50                 |                    | TO-247   | 2SK2551             | A    | Harris |
| RFG60P05E    | -50                  | 0.026                     | 60                 |                    | TO-247   |                     |      | Harris |
| RFG60P06E    | -50                  | 0.03                      | 60                 |                    | TO-247   |                     |      | Harris |
| RFG70N06     | 60                   | 0.014                     | 70                 |                    | TO-247   | 2SK2313             | A    | Harris |
| RFH10N45     | 450                  | 0.6                       | 10                 |                    | TO-218   | 2SK2601             | A    | Harris |
| RFH10N50     | 500                  | 0.6                       | 10                 |                    | TO-218   | 2SK2601             | A    | Harris |
| RFH12N35     | 350                  | 0.5                       | 12                 |                    | TO-218   | 2SK2698             | A    | Harris |
| RFH12N40     | 400                  | 0.5                       | 12                 |                    | TO-218   | 2SK2841             | B    | Harris |
| RFH25N18     | 180                  | 0.15                      | 25                 |                    | TO-218   | 2SK2382             | B    | Harris |
| RFH25N20     | 200                  | 0.12                      | 27                 |                    | TO-218   | 2SK2382             | B    | Harris |
| RFH25P08     | -80                  | 0.15                      | 25                 |                    | TO-218   |                     |      | Harris |
| RFH25P10     | -100                 | 0.15                      | 25                 |                    | TO-218   | 2SJ464              | B    | Harris |
| RFH30N12     | 120                  | 0.075                     | 30                 |                    | TO-218   |                     |      | Harris |
| RFH30N15     | 150                  | 0.075                     | 30                 |                    | TO-218   |                     |      | Harris |
| RFH35N08     | 80                   | 0.055                     | 35                 |                    | TO-218   | 2SK2466             | B    | Harris |
| RFH35N10     | 100                  | 0.055                     | 35                 |                    | TO-218   | 2SK2466             | B    | Harris |
| RFH45N05     | 50                   | 0.04                      | 45                 |                    | TO-218   | 2SK2398             | A    | Harris |
| RFH45N06     | 60                   | 0.04                      | 45                 |                    | TO-218   | 2SK2398             | A    | Harris |
| RFH75N05E    | 50                   | 0.01                      | 75                 |                    | TO-218   | 2SK2551             | A    | Harris |
| RFP10N12     | 120                  | 0.3                       | 10                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP10N12L    | 120                  | 0.3                       | 10                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP10N15     | 150                  | 0.3                       | 10                 |                    | TO-220AB | 2SK2382             | B    | Harris |
| RFP10N15L    | 150                  | 0.3                       | 10                 |                    | TO-220AB | 2SK2382             | B    | Harris |

# Power MOSFETs Cross Reference

## Alphanumerically

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|--------|
| RFP10P12    | -120                 | 0.5                       | 10                 |                    | TO-220AB | 2SJ407              | B    | Harris |
| RFP10P15    | -150                 | 0.5                       | 10                 |                    | TO-220AB | 2SJ513              | B    | Harris |
| RFP12N06RLE | 60                   | 0.135                     | 12                 |                    | TO-220AB | 2SK2231             | B    | Harris |
| RFP12N08    | 80                   | 0.2                       | 12                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP12N08L   | 80                   | 0.2                       | 12                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP12N10    | 100                  | 0.2                       | 12                 |                    | TO-220AB | 2SK2399             | B    | Harris |
| RFP12N10L   | 100                  | 0.2                       | 12                 |                    | TO-220AB | 2SK2399             | B    | Harris |
| RFP12N18    | 180                  | 0.25                      | 12                 |                    | TO-220AB | 2SK2382             | B    | Harris |
| RFP12N20    | 200                  | 0.2                       | 12.5               |                    | TO-220AB | YTA640              | A    | Harris |
| RFP12P08    | -80                  | 0.3                       | 12                 |                    | TO-220AB | 2SJ380              | B    | Harris |
| RFP12P10    | -100                 | 0.3                       | 12                 |                    | TO-220AB | 2SJ380              | B    | Harris |
| RFP14N05    | 50                   | 0.1                       | 14                 |                    | TO-220AB | 2SK2507             | B    | Harris |
| RFP14N05L   | 50                   | 0.1                       | 14                 |                    | TO-220AB | 2SK2507             | B    | Harris |
| RFP15N05    | 50                   | 0.14                      | 15                 |                    | TO-220AB | 2SK2232             | B    | Harris |
| RFP15N05L   | 50                   | 0.14                      | 15                 |                    | TO-220AB | 2SK2232             | B    | Harris |
| RFP15N06    | 60                   | 0.14                      | 15                 |                    | TO-220AB | 2SK2231             | B    | Harris |
| RFP15N06L   | 60                   | 0.14                      | 15                 |                    | TO-220AB | 2SK2231             | B    | Harris |
| RFP15N08L   | 80                   | 0.14                      | 15                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP15N12    | 120                  | 0.15                      | 15                 |                    | TO-220AB | 2SK2401             | A    | Harris |
| RFP15N15    | 150                  | 0.15                      | 15                 |                    | TO-220AB | 2SK2401             | A    | Harris |
| RFP15P05    | -50                  | 0.15                      | 15                 |                    | TO-220AB | 2SJ349              | A    | Harris |
| RFP17N06L   | 60                   | 0.1                       | 17                 |                    | TO-220AB | 2SK2232             | B    | Harris |
| RFP18N08    | 80                   | 0.1                       | 18                 |                    | TO-220AB | 2SK2391             | B    | Harris |
| RFP18N10    | 100                  | 0.1                       | 18                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP22N10    | 100                  | 0.08                      | 22                 |                    | TO-220AB | 2SK2314             | A    | Harris |
| RFP25N05    | 50                   | 0.047                     | 25                 |                    | TO-220AB | 2SK2507             | B    | Harris |
| RFP25N05L   | 50                   | 0.047                     | 25                 |                    | TO-220AB | 2SK2507             | B    | Harris |
| RFP2N08     | 80                   | 1.05                      | 2                  |                    | TO-220AB | 2SK2201             | B    | Harris |
| RFP2N08L    | 80                   | 1.05                      | 2                  |                    | TO-220AB | 2SK2201             | B    | Harris |
| RFP2N10     | 100                  | 1.05                      | 2                  |                    | TO-220AB | 2SK2201             | B    | Harris |
| RFP2N10L    | 100                  | 1.05                      | 2                  |                    | TO-220AB | 2SK2201             | B    | Harris |
| RFP2N12     | 120                  | 1.75                      | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N12L    | 120                  | 1.75                      | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N15     | 150                  | 1.75                      | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N15L    | 150                  | 1.75                      | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N18     | 180                  | 3.5                       | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N18L    | 180                  | 3.5                       | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N20     | 200                  | 3.5                       | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2N20L    | 200                  | 3.5                       | 2                  |                    | TO-220AB | 2SK2381             | B    | Harris |
| RFP2P08     | -80                  | 3.5                       | 2                  |                    | TO-220AB | 2SJ380              | B    | Harris |
| RFP2P10     | -100                 | 3.5                       | 2                  |                    | TO-220AB |                     |      | Harris |
| RFP3055RLE  | 60                   | 0.16                      | 12                 |                    | TO-220AB | 2SK2231             | B    | Harris |
| RFP30P05    | -50                  | 0.065                     | 30                 |                    | TO-220AB | 2SJ334              | B    | Harris |
| RFP30P06    | -60                  | 0.075                     | 30                 |                    | TO-220AB | 2SJ349              | B    | Harris |
| RFP3N45     | 450                  | 3                         | 3                  |                    | TO-220AB | 2SK2862             | B    | Harris |
| RFP3N50     | 500                  | 3                         | 3                  |                    | TO-220AB | 2SK2862             | B    | Harris |
| RFP40N10    | 100                  | 0.04                      | 40                 |                    | TO-220AB | 2SK2466             | B    | Harris |
| RFP4N05     | 50                   | 0.95                      | 4                  |                    | TO-220AB | 2SK2231             | B    | Harris |
| RFP4N05L    | 50                   | 0.6                       | 4                  |                    | TO-220AB | 2SK2231             | B    | Harris |
| RFP4N06     | 60                   | 0.8                       | 4                  |                    | TO-220AB |                     |      | Harris |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|-----------|
| RFP4N06L    | 60                   | 0.6                       | 4                  |                    | TO-220AB      |                     |      | Harris    |
| RFP4N100    | 1000                 | 3.5                       | 4.3                |                    | TO-220AB      | 2SK1119             | A    | Harris    |
| RFP4N35     | 350                  | 2                         | 4                  |                    | TO-220AB      | 2SK2679             | B    | Harris    |
| RFP4N40     | 400                  | 2                         | 4                  |                    | TO-220AB      | 2SK2679             | B    | Harris    |
| RFP50N05    | 50                   | 0.022                     | 50                 |                    | TO-220AB      | 2SK2886             | B    | Harris    |
| RFP50N05L   | 50                   | 0.022                     | 50                 |                    | TO-220AB      | 2SK2551             | B    | Harris    |
| RFP5P12     | -120                 | 1                         | 5                  |                    | TO-220AB      | 2SJ407              | B    | Harris    |
| RFP5P15     | -150                 | 1                         | 5                  |                    | TO-220AB      | 2SJ407              | B    | Harris    |
| RFP6N45     | 450                  | 1.25                      | 6                  |                    | TO-220AB      | 2SK2542             | A    | Harris    |
| RFP6N50     | 500                  | 1.25                      | 6                  |                    | TO-220AB      | 2SK2542             | A    | Harris    |
| RFP6P08     | -80                  | 0.6                       | 6                  |                    | TO-220AB      | 2SJ380              | B    | Harris    |
| RFP6P10     | -100                 | 0.6                       | 6                  |                    | TO-220AB      |                     |      | Harris    |
| RFP70N06    | 60                   | 0.014                     | 70                 |                    | TO-220AB      | 2SK2312             | B    | Harris    |
| RFP7N35     | 350                  | 0.75                      | 7                  |                    | TO-220AB      | 2SK2542             | A    | Harris    |
| RFP7N40     | 400                  | 0.75                      | 7                  |                    | TO-220AB      | 2SK2841             | A    | Harris    |
| RFP8N18     | 180                  | 0.5                       | 8                  |                    | TO-220AB      | 2SK2467             | B    | Harris    |
| RFP8N18L    | 180                  | 0.5                       | 8                  |                    | TO-220AB      | 2SK2467             | B    | Harris    |
| RFP8N20     | 200                  | 0.6                       | 8                  |                    | TO-220AB      | YTA630              | A    | Harris    |
| RFP8N20L    | 200                  | 0.65                      | 8                  |                    | TO-220AB      | YTA630              | A    | Harris    |
| RFP8P03L    | -30                  | 0.3                       | 8                  |                    | TO-220AB      |                     |      | Harris    |
| RFP8P05     | -50                  | 0.3                       | 8                  |                    | TO-220AB      | 2SJ438              | B    | Harris    |
| RFP8P08     | -80                  | 0.4                       | 8                  |                    | TO-220AB      | 2SJ380              | B    | Harris    |
| RFP8P10     | -100                 | 0.4                       | 8                  |                    | TO-220AB      | 2SJ380              | B    | Harris    |
| RFW2N06RLE  | 60                   | 0.16                      | 2                  |                    | DIP           |                     |      | Harris    |
| RLP1N06CLE  | 60                   | 0.75                      | 1                  |                    | TO-220AB      |                     |      | Harris    |
| RLP1N08LE   | 80                   | 0.75                      | 1                  |                    | TO-220AB      |                     |      | Harris    |
| RLP5N08LE   | 80                   | 0.12                      | 5.5                |                    | TO-220AB      | 2SK2314             | A    | Harris    |
| Si2301DS    | -12                  | 0.13                      | 2.3                |                    | SOT-23        |                     |      | Siliconix |
| Si2302DS    | 20                   | 0.085                     | 2.8                |                    | SOT-23        |                     |      | Siliconix |
| Si2303DS    | -30                  | 0.24                      | -1.7               | 1.25               | SOT-23        |                     |      | Siliconix |
| Si2304DS    | 30                   | 0.117                     | 2.5                | 1.25               | SOT-23        |                     |      | Siliconix |
| Si2305DS    | -8                   | 0.052                     | -3.5               | 1.25               | SOT-23        |                     |      | Siliconix |
| Si2306DS    | 30                   | 0.057                     | 3.5                | 1.25               | SOT-23        |                     |      | Siliconix |
| Si2307DS    | -30                  | 0.08                      | 3                  | 1.25               | SOT-23        |                     |      | Siliconix |
| Si2308DS    | 60                   | 0.16                      | 2                  | 1.25               | SOT-23        |                     |      | Siliconix |
| Si2315DS    | -12                  | 0.055                     | -3.5               | 1.25               | SOT-23        |                     |      | Siliconix |
| Si3441DV    | -20                  | 0.1                       | 3.3                |                    | TSOP-6        |                     |      | Siliconix |
| Si3442DV    | 20                   | 0.07                      | 4                  |                    | TSOP-6        |                     |      | Siliconix |
| Si3443DV    | -20                  | 0.065                     | 4.4                |                    | TSOP-6        |                     |      | Siliconix |
| Si3445DV    | -8                   | 0.042                     | 5.6                | 2                  | TSOP-6        |                     |      | Siliconix |
| Si3446DV    | 20                   | 0.045                     | 5.3                |                    | TSOP-6        |                     |      | Siliconix |
| Si3447DV    | -12                  | 0.05                      | 5.2                | 2                  | TSOP-6        |                     |      | Siliconix |
| Si3454DV    | 30                   | 0.065                     | 4.2                |                    | TSOP-6        |                     |      | Siliconix |
| Si3455DV    | -30                  | 0.1                       | 3.5                |                    | TSOP-6        |                     |      | Siliconix |
| Si3456DV    | 30                   | 0.045                     | 5.1                |                    | TSOP-6        |                     |      | Siliconix |
| Si3457DV    | -30                  | 0.065                     | 4.3                |                    | TSOP-6        |                     |      | Siliconix |
| Si3801DV    | -12                  | 0.22                      | 2.3                | 2                  | TSOP-6        |                     |      | Siliconix |
| Si3831DV    | -7                   | 0.17                      | 2.4                | 1.5                | TSOP-6        |                     |      | Siliconix |
| Si3850DV    | 20/-20               | 0.5/1.00                  | 1.2/0.85           | 1.25               | TSOP-6(P&N)   |                     |      | Siliconix |
| Si4410DY    | 30                   | 0.0135                    | 10                 |                    | SOP-8(Single) | TPC8005-H           | A    | Siliconix |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package          | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|------------------|---------------------|------|-----------|
| Si4412DY    | 30                   | 0.028                     | 7                  |                    | SOP-8(Single)    | TPC8006-H           | A    | Siliconix |
| Si4416DY    | 30                   | 0.018                     | 9                  |                    | SOP-8(Single)    | TPC8005-H           | A    | Siliconix |
| Si4420DY    | 30                   | 0.009                     | 12.5               |                    | SOP-8(Single)    | TPC8007-H           | A    | Siliconix |
| Si4425DY    | -30                  | 0.014                     | -11                |                    | SOP-8(Single)    | TPC8103             | A    | Siliconix |
| Si4431DY    | -30                  | 0.04                      | -5.8               |                    | SOP-8(Single)    | TPC8105-H           | A    | Siliconix |
| Si4435DY    | -30                  | 0.02                      | -8                 |                    | SOP-8(Single)    | TPC8106-H           | A    | Siliconix |
| Si4450DY    | 60                   | 0.024                     | 7.5                |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si4463DY    | -20                  | 0.014                     | -10                |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si4465DY    | -8                   | 0.009                     | 14                 | 2.5                | SOP-8(Single)    |                     |      | Siliconix |
| Si4466DY    | 20                   | 0.009                     | 13.2               |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si4467DY    | -12                  | 0.011                     | 12                 | 2.5                | SOP-8(Single)    |                     |      | Siliconix |
| Si4480DY    | 80                   | 0.035                     | 6                  |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si4482DY    | 100                  | 0.06                      | 4.6                |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si4532DY    | 30/-30               | 0.065/0.085               | 3.9/-3.5           |                    | SOP-8(P&N)       | TPC8401             | A    | Siliconix |
| Si4539DY    | 30/-30               | 0.037/0.053               | 5.8/-4.9           |                    | SOP-8(P&N)       | TPC8401             | A    | Siliconix |
| Si4542DY    | 30/-30               | 0.025/0.032               | 6.9/-6.1           |                    | SOP-8(P&N)       | TPC8401             | A    | Siliconix |
| Si4544DY    | 30/-30               | 0.035/0.045               | 6.5/-5.7           |                    | SOP-8(P&N)       | TPC8401             | A    | Siliconix |
| Si4558DY    | 30/-30               | 0.04/0.06                 | 6/-6               |                    | SOP-8(P&N)       | TPC8401             | A    | Siliconix |
| Si4559EY    | 60/-60               | 0.055/0.12                | 4.5/-3.1           |                    | SOP-8(P&N)       |                     |      | Siliconix |
| Si4562DY    | 20/-20               | 0.025/0.033               | 7.1/-6.2           |                    | SOP-8(P&N)       |                     |      | Siliconix |
| Si4652DY    | 20/-20               | 0.025/0.033               | 7.1/6.2            | 2                  | SOP-8(P&N)       |                     |      | Siliconix |
| Si4806DY    | 30                   | 0.022/0.25                | 7.7/2              |                    | SOP-8(Dual Gate) |                     |      | Siliconix |
| Si4807DY    | -30                  | 0.035/1.3                 | 6.0/0.9            |                    | SOP-8(Dual Gate) |                     |      | Siliconix |
| Si4810DY    | 30                   | 0.0135                    | 10                 | 2.5                | SOP-8(Single)    | TPC8005-H           | A    | Siliconix |
| Si4812DY    | 30                   | 0.018                     | 9                  | 2.5                | SOP-8(Single)    | TPC8005-H           | A    | Siliconix |
| Si4812DY    | 30                   | 0.018                     | 9                  |                    | SOP-8(N&SBD)     |                     |      | Siliconix |
| Si4820DY    | 30                   | 0.0135                    | 10                 | 2.5                | SOP-8(Single)    | TPC8005-H           | A    | Siliconix |
| Si4822DY    | 30                   | 0.01                      | 12                 |                    | SOP-8(Single)    | TPC8007-H           | A    | Siliconix |
| Si4824DY    | 30                   | 0.04/0.0175               | 4.7/9.0            |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si4832DY    | 30                   | 0.018                     | 9                  | 2.5                | SOP-8(Single)    | TPC8005-H           | A    | Siliconix |
| Si4833DY    | -30                  | 0.085                     | 3.5                |                    | SOP-8(P&SBD)     |                     |      | Siliconix |
| Si4902DY    | 30/30                | 0.065/0.028               | 3.9/5.6            |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si4920DY    | 30                   | 0.025                     | 6.9                |                    | SOP-8(Dual)      | TPC8203             | A    | Siliconix |
| Si4920DY    | 30                   | 0.025                     | 6.9                | 2                  | SOP-8(Dual)      |                     |      | Siliconix |
| Si4925DY    | -30                  | 0.032                     | -6.1               |                    | SOP-8(Dual)      | TPC8303             | A    | Siliconix |
| Si4927DY    | -30                  | 0.028                     | 7.4                | 2.5                | SOP-8(Dual)      |                     |      | Siliconix |
| Si4936DY    | 30                   | 0.037                     | 5.8                |                    | SOP-8(Dual)      | TPC8201             | A    | Siliconix |
| Si4936DY    | 30                   | 0.037                     | 5.8                | 2                  | SOP-8(Dual)      |                     |      | Siliconix |
| Si4946EY    | 60                   | 0.055                     | 4.5                |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si4947DY    | -30                  | 0.085                     | -3.5               |                    | SOP-8(Dual)      | TPC8301             | A    | Siliconix |
| Si4948EY    | -60                  | 0.12                      | -3.1               |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si4949DY    | 60/-30               | 0.055/0.053               | 4.5/5.1            |                    | SOP-8(P&N)       |                     |      | Siliconix |
| Si4953DY    | -30                  | 0.053                     | -4.9               |                    | SOP-8(Dual)      | TPC8303             | A    | Siliconix |
| Si4963DY    | -20                  | 0.033                     | -6.2               |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si4965DY    | -8                   | 0.021                     | 8                  | 2                  | SOP-8(Dual)      |                     |      | Siliconix |
| Si4966DY    | 20                   | 0.025                     | 7.1                |                    | SOP-8(Dual)      | TPC8204             | A    | Siliconix |
| Si4967DY    | -12                  | 0.023                     | 7.5                | 2                  | SOP-8(Dual)      |                     |      | Siliconix |
| Si4980DY    | 80                   | 0.075                     | 3.7                |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si4982DY    | 100                  | 0.15                      | 2.6                |                    | SOP-8(Dual)      |                     |      | Siliconix |
| Si6331DQ    | 30                   | 0.028                     | 5.6                |                    | TSSOP-28(Triple) |                     |      | Siliconix |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package          | Toshiba Replacement | Note | Vender    |
|-------------|----------------------|---------------------------|--------------------|--------------------|------------------|---------------------|------|-----------|
| Si6332DQ    | -30                  | 0.04                      | 4.5                |                    | TSSOP-28(Triple) |                     |      | Siliconix |
| Si6361DQ    | 30/-30               | 0.065/0.085               | 3.6/3.1            |                    | TSSOP-28         |                     |      | Siliconix |
| Si6410DQ    | 30                   | 0.014                     | 7.8                |                    | TSSOP-8(Dual)    | TPCS8003            | A    | Siliconix |
| Si6415DQ    | -30                  | 0.019                     | 6.5                |                    | TSSOP-8(Single)  | TPCS8101            | A    | Siliconix |
| Si6426DQ    | 20                   | 0.035                     | 5.4                |                    | TSSOP-8(Single)  | TPCS8002            | A    | Siliconix |
| Si6433DQ    | -12                  | 0.06                      | 4                  |                    | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6434DQ    | 30                   | 0.028                     | 5.6                |                    | TSSOP-8(Single)  | TPCS8001-H          | A    | Siliconix |
| Si6435DQ    | -30                  | 0.04                      | 4.5                |                    | TSSOP-8(Single)  | TPCS8101            | A    | Siliconix |
| Si6436DQ    | 30                   | 0.045                     | 4.4                |                    | TSSOP-8(Single)  | TPCS8001-H          | A    | Siliconix |
| Si6447DQ    | -20                  | 0.09                      | 3.2                |                    | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6459DQ    | -60                  | 0.12                      | 2.6                |                    | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6463DQ    | -20                  | 0.02                      | 6.5                |                    | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6465DQ    | -8                   | 0.012                     | 8.8                | 1.5                | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6466DQ    | 20                   | 0.014                     | 7.8                |                    | TSSOP-8(Single)  | TPCS8002            | A    | Siliconix |
| Si6467DQ    | -12                  | 0.014                     | 8                  | 1.5                | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6542DQ    | 20/-20               | 0.090/0.170               | 2.5/1.9            |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6543DQ    | 30/-30               | 0.065/0.085               | 3.9/2.5            |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6544DQ    | 30/-30               | 0.035/0.045               | 4/3.5              |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6552DQ    | 20/-12               | 0.080/0.100               | 2.8/2.5            |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6562DQ    | 20/-20               | 0.035/0.045               | 4.5/3.5            |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6801DQ    | 20/-20               | 0.160/0.190               | 1.9/1.7            |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6802DQ    | 20                   | 0.075                     | 3.3                |                    | TSSOP-8(Single)  |                     |      | Siliconix |
| Si6803DQ    | 20/-20               | 0.095/0.11                | 2.5/2.3            |                    | TSSOP-8(P&N)     |                     |      | Siliconix |
| Si6820DQ    | 20                   | 0.16                      | 1.9                | 1.2                | TSSOP-8(N&SBD)   |                     |      | Siliconix |
| Si6820DQ    | 20                   |                           | 1.9                |                    | SOP-8(N&SBD)     |                     |      | Siliconix |
| Si6821DQ    | -20                  | 0.19                      | 1.7                | 1.2                | TSSOP-8(P&SBD)   |                     |      | Siliconix |
| Si6821DQ    | -20                  |                           | -1.7               |                    | SOP-8(P&SBD)     |                     |      | Siliconix |
| Si6923DQ    | -20                  | 0.05                      | 3.5                | 1.2                | TSSOP-8(P&SBD)   |                     |      | Siliconix |
| Si6923DQ    | -20                  |                           | -3.5               |                    | SOP-8(P&SBD)     |                     |      | Siliconix |
| Si6925DQ    | 20                   | 0.05                      | 3.4                |                    | TSSOP-8(Dual)    | TPCS8201            | A    | Siliconix |
| Si6926DQ    | 20                   | 0.035                     | 4                  |                    | TSSOP-8(Dual)    | TPCS8201            | A    | Siliconix |
| Si6928DQ    | 30                   | 0.035                     | 4                  |                    | TSSOP-8(Dual)    | TPCS8202            | A    | Siliconix |
| Si6933DQ    | -30                  | 0.045                     | 3.5                |                    | TSSOP-8(Dual)    | TPCS8301            | A    | Siliconix |
| Si6943DQ    | -12                  | 0.1                       | 2.5                |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6946DQ    | 20                   | 0.08                      | 2.8                |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6953DQ    | -20                  | 0.17                      | 1.9                |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6954DQ    | 30                   | 0.065                     | 3.9                |                    | TSSOP-8(Dual)    | TPCS8202            | A    | Siliconix |
| Si6955DQ    | -30                  | 0.085                     | 2.5                |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6956DQ    | 20                   | 0.09                      | 2.5                |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6963DQ    | -20                  | 0.05                      | 3.5                |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6965DQ    | -20                  | 0.35                      | -5                 |                    | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6966DQ    | 20                   | 0.035                     | 4.5                |                    | TSSOP-8(Dual)    | TPCS8201            | A    | Siliconix |
| Si6967DQ    | -8                   | 0.03                      | 5                  | 1.1                | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si6968DQ    | 20                   | 0.022                     | 6.5                |                    | TSSOP-8(Dual)    | TPCS8201            | A    | Siliconix |
| Si6969DQ    | -12                  | 0.034                     | 4.6                | 1.1                | TSSOP-8(Dual)    |                     |      | Siliconix |
| Si9400DY    | -20                  | 0.25                      | -2.5               |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si9405DY    | -20                  | 0.1                       | -4.3               |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si9407AEY   | -60                  | 0.12                      | -3.5               |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si9407DY    | -60                  | 0.15                      | -3                 |                    | SOP-8(Single)    |                     |      | Siliconix |
| Si9410DY    | 30                   | 0.03                      | 7                  |                    | SOP-8(Single)    | TPC8006-H           | A    | Siliconix |

**Power MOSFETs Cross Reference**
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| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender    |
|--------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|-----------|
| Si9420DY     | 200                  | 1                         | 1                  |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9422DY     | 200                  | 0.42                      | 1.7                |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9424ADY    | -20                  | 0.025                     | -7.7               |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9424DY     | -12                  | 0.025                     | -7.7               |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9426DY     | 20                   | 0.0135                    | 10                 |                    | SOP-8(Single) | TPC8008             | A    | Siliconix |
| Si9428DY     | 20                   | 0.03                      | 6                  | 2.5                | SOP-8(Single) |                     |      | Siliconix |
| Si9430DY     | -20                  | 0.05                      | -5.8               |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9431DY     | -12                  | 0.05                      | 5.5                |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9433DY     | -20                  | 0.045                     | -5.4               |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9434ADY    | -20                  | 0.033                     | 6.9                |                    | SOP-8(Single) | TPC8102             | A    | Siliconix |
| Si9434DY     | -12                  | 0.04                      | -6.4               |                    | SOP-8(Single) |                     |      | Siliconix |
| Si9435DY     | -30                  | 0.055                     | -5.1               |                    | SOP-8(Single) | TPC8105-H           | A    | Siliconix |
| Si9529DY     | 20/-12               | 0.03/0.05                 | 6/5                |                    | SOP-8(P&N)    |                     |      | Siliconix |
| Si9801DY     | 20/-20               | 0.055/0.045               | 4.5/4.0            |                    | SOP-8(P&N)    |                     |      | Siliconix |
| Si9802DY     | 20                   | 0.055                     | 4.5                |                    | SOP-8(Dual)   | TPC8202             | A    | Siliconix |
| Si9803DY     | -25                  | 0.04                      | -5.9               |                    | SOP-8(Single) | TPC8105-H           | A    | Siliconix |
| Si9803DY     | -20                  | 0.04                      | 5.9                |                    | SOP-8(Single) | TPC8102             | A    | Siliconix |
| Si9804DY     | 25                   | 0.023                     | 7.8                |                    | SOP-8(Single) | TPC8006-H           | A    | Siliconix |
| Si9806DY     | 25                   | 0.027                     | 7                  |                    | SOP-8(Dual G) |                     |      | Siliconix |
| Si9902DY     | 20/20                | 0.08/0.035                | 2.8/5.4            |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9925DY     | 20                   | 0.05                      | 5                  |                    | SOP-8(Dual)   | TPC8202             | A    | Siliconix |
| Si9926DY     | 20                   | 0.03                      | 6                  |                    | SOP-8(Dual)   | TPC8204             | A    | Siliconix |
| Si9928DY     | 20/-20               | 0.05/0.11                 | 5.0/3.4            | 2                  | SOP-8(P&N)    |                     |      | Siliconix |
| Si9933ADY    | -20                  | 0.075                     | -3.4               |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9933DY     | -20                  | 0.075                     | -3.4               |                    | SOP-8(Dual)   | TPC8302             | A    | Siliconix |
| Si9934DY     | -12                  | 0.05                      | -5                 |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9936DY     | 30                   | 0.05                      | 5                  |                    | SOP-8(Dual)   | TPC8201             | A    | Siliconix |
| Si9939DY     | 30/-30               | 0.05/0.1                  | 3.5/-3.5           |                    | SOP-8(P&N)    | TPC8401             | A    | Siliconix |
| Si9940DY     | 50                   | 0.05                      | 5.3                |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9942DY     | 20/-20               | 0.125/0.2                 | 3/2.5              |                    | SOP-8(P&N)    |                     |      | Siliconix |
| Si9943DY     | 20/-20               | 0.125/0.16                | 3/2.8              |                    | SOP-8(P&N)    |                     |      | Siliconix |
| Si9944DY     | 240                  | 6                         | 0.4                |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9945AEY    | 60                   | 0.08                      | 3.7                |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9945DY     | 60                   | 0.1                       | 3.3                |                    | SOP-8(Dual)   |                     |      | Siliconix |
| Si9947DY     | -20                  | 0.1                       | -3.5               |                    | SOP-8(Dual)   | TPC8302             | A    | Siliconix |
| Si9948AEY    | -60                  | 0.17                      | -2.6               |                    | SOP-8(Dual)   | TPC8304             | A    | Siliconix |
| Si9948DY     | -60                  | 0.28                      | -2                 |                    | SOP-8(Dual)   | TPC8304             | A    | Siliconix |
| Si9952DY     | 25/-25               | 0.1/0.25                  | 3.5/2.3            |                    | SOP-8(P&N)    |                     |      | Siliconix |
| Si9953DY     | -20                  | 0.25                      | -2.3               |                    | SOP-8(Dual)   | TPC8302             | A    | Siliconix |
| Si9955DY     | 50                   | 0.13                      | 3                  |                    | SOP-8(Dual)   | TPC8205             | A    | Siliconix |
| Si9956DY     | 20                   | 0.1                       | 3.5                |                    | SOP-8(Dual)   | TPC8202             | A    | Siliconix |
| Si9958DY     | 20/-20               | 0.1/0.1                   | 3.5/3.5            |                    | SOP-8(P&N)    |                     |      | Siliconix |
| Si9959DY     | 50                   | 0.3                       | 2                  |                    | SOP-8(Dual)   | TPC8205             | A    | Siliconix |
| SMB60N03-10L | 30                   | 0.01                      | 60                 | 125                | D2-PAK        | 2SK3127             | A    | Siliconix |
| SMD10P05     | -50                  | 0.28                      | 10                 | 40                 | D-PAK         | 2SJ377              | A    | Siliconix |
| SMD10P06     | -60                  | 0.28                      | 10                 | 42                 | D-PAK         | 2SJ377              | A    | Siliconix |
| SMD10P06L    | -60                  | 0.28                      | 10                 | 40                 | D-PAK         | 2SJ377              | A    | Siliconix |
| SMD15N05     | 50                   | 0.1                       | 15                 | 40                 | D-PAK         | 2SK2614             | A    | Siliconix |
| SMD25N05-45L | 50                   | 0.045                     | 25                 | 50                 | D-PAK         | 2SK2614             | A    | Siliconix |
| SMD30N03-30L | 30                   | 0.03                      | 30                 | 50                 | D-PAK         |                     |      | Siliconix |

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| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender    |
|--------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|-----------|
| SMP40P06     | -60                  | 0.045                     | 40                 | 125                | TO-220AB | 2SJ349              | A    | Siliconix |
| SMP50N06-25  | 60                   | 0.025                     | 50                 | 131                | TO-220AB | 2SK2312             | B    | Siliconix |
| SMP60N03-10L | 30                   | 0.01                      | 60                 | 105                | TO-220AB | 2SK3127             | B    | Siliconix |
| SMP60N06-18  | 60                   | 0.018                     | 60                 | 125                | TO-220AB | 2SK2312             | B    | Siliconix |
| SMU10P05     | -50                  | 0.28                      | 10                 | 40                 | TO-251   | 2SJ377              | A    | Siliconix |
| SMU15N05     | 50                   | 0.1                       | 15                 | 40                 | TO-251   | 2SK2614             | A    | Siliconix |
| SMU25N05-45L | 50                   | 0.045                     | 25                 | 50                 | TO-251   | 2SK2614             | A    | Siliconix |
| SMU30N03-30L | 30                   | 0.03                      | 30                 | 50                 | TO-251   |                     |      | Siliconix |
| SN7000       | 60                   | 5                         | 0.25               |                    | TO-92    |                     |      | Siemens   |
| SN7002       | 60                   | 5                         | 0.19               |                    | SOT-23   |                     |      | Siemens   |
| SP0610T      | -60                  | 10                        | 0.13               |                    | SOT-23   | 2SJ168              | A    | Siemens   |
| SPA02N60S5   | 600                  | 2.5                       | 2                  |                    | TO-220IS | 2SK2750             | A    | Siemens   |
| SPA03N60S5   | 600                  | 1.4                       | 3                  |                    | TO-220IS | 2SK2545             | A    | Siemens   |
| SPA04N60S5   | 600                  | 0.95                      | 4                  |                    | TO-220IS | 2SK2843             | A    | Siemens   |
| SPA07N60S5   | 600                  | 0.6                       | 7                  |                    | TO-220IS |                     |      | Siemens   |
| SPA20N60S5   | 600                  | 0.19                      | 20                 |                    | TO-220IS |                     |      | Siemens   |
| SPB02N60S5   | 600                  | 2.5                       | 2                  |                    | TO-220SM | 2SK2777             | A    | Siemens   |
| SPB03N60S5   | 600                  | 1.4                       | 3                  |                    | TO-220SM | 2SK2777             | A    | Siemens   |
| SPB04N60S5   | 600                  | 0.95                      | 4                  |                    | TO-220SM | 2SK2889             | A    | Siemens   |
| SPB07N60S5   | 600                  | 0.6                       | 7                  |                    | TO-220SM |                     |      | Siemens   |
| SPB20N60S5   | 600                  | 0.19                      | 20                 |                    | TO-220SM |                     |      | Siemens   |
| SPB30N03     | 30                   | 0.023                     | 30                 |                    | D2-PAK   | 2SK3090             | A    | Siemens   |
| SPB30N03L    | 30                   | 0.028                     | 30                 |                    | D2-PAK   | 2SK3089             | A    | Siemens   |
| SPB46N03     | 30                   | 0.015                     | 46                 |                    | D2-PAK   | 2SK3127             | A    | Siemens   |
| SPB46N03L    | 30                   | 0.018                     | 46                 |                    | D2-PAK   | 2SK3090             | A    | Siemens   |
| SPB80N03     | 30                   | 0.006                     | 80                 |                    | D2-PAK   |                     |      | Siemens   |
| SPB80N03L    | 30                   | 0.008                     | 80                 |                    | D2-PAK   |                     |      | Siemens   |
| SPD01N60S5   | 600                  | 6                         | 1                  |                    | D-PAK    | 2SK2865             | A    | Siemens   |
| SPD02N60     | 600                  | 5.5                       | 2                  |                    | D-PAK    | 2SK2865             | A    | Siemens   |
| SPD02N60S5   | 600                  | 2.5                       | 2                  |                    | D-PAK    |                     |      | Siemens   |
| SPD03N60S5   | 600                  | 1.4                       | 3                  |                    | D-PAK    |                     |      | Siemens   |
| SPD04N60S5   | 600                  | 0.95                      | 4                  |                    | D-PAK    |                     |      | Siemens   |
| SPD07N20     | 200                  | 0.4                       | 7                  |                    | D-PAK    |                     |      | Siemens   |
| SPD07N60S5   | 600                  | 0.6                       | 7                  |                    | D-PAK    |                     |      | Siemens   |
| SPD08N05L    | 55                   | 0.18                      | 8                  |                    | D-PAK    | 2SK2231             | A    | Siemens   |
| SPD08N10     | 100                  | 0.3                       | 8.4                |                    | D-PAK    | 2SK2201             | A    | Siemens   |
| SPD08P05     | -50                  | 0.3                       | 8                  |                    | D-PAK    | 2SJ377              | A    | Siemens   |
| SPD09N05     | 55                   | 0.15                      | 9                  |                    | D-PAK    | 2SK2231             | A    | Siemens   |
| SPD10N10     | 100                  | 0.2                       | 10                 |                    | D-PAK    | 2SK2399             | A    | Siemens   |
| SPD13N05L    | 55                   | 0.12                      | 12.8               |                    | D-PAK    | 2SK2782             | A    | Siemens   |
| SPD14N05     | 55                   | 0.1                       | 14                 |                    | D-PAK    | 2SK2782             | A    | Siemens   |
| SPD21N05L    | 55                   | 0.07                      | 21                 |                    | D-PAK    | 2SK2782             | A    | Siemens   |
| SPD23N05     | 55                   | 0.06                      | 23                 |                    | D-PAK    | 2SK2782             | A    | Siemens   |
| SPD28N03     | 30                   | 0.023                     | 28                 |                    | D-PAK    |                     |      | Siemens   |
| SPD28N03L    | 30                   | 0.028                     | 28                 |                    | D-PAK    |                     |      | Siemens   |
| SPD28N05L    | 55                   | 0.05                      | 28                 |                    | D-PAK    | 2SK2782             | A    | Siemens   |
| SPD30N03     | 30                   | 0.015                     | 30                 |                    | D-PAK    |                     |      | Siemens   |
| SPD30N03L    | 30                   | 0.018                     | 30                 |                    | D-PAK    |                     |      | Siemens   |
| SPD31N05     | 55                   | 0.04                      | 31                 |                    | D-PAK    |                     |      | Siemens   |
| SPN01N60S5   | 600                  | 6                         | 1                  |                    | SOT-223  |                     |      | Siemens   |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package       | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------------|---------------------|------|---------|
| SPN02N60S5  | 600                  | 2.5                       | 2                  |                    | SOT-223       |                     |      | Siemens |
| SPN03N60S5  | 600                  | 1.4                       | 3                  |                    | SOT-223       |                     |      | Siemens |
| SPN04N60S5  | 600                  | 0.95                      | 4                  |                    | SOT-223       |                     |      | Siemens |
| SPO01N60S5  | 600                  | 6                         | 1                  |                    | SOP-8(Single) |                     |      | Siemens |
| SPO02N60S5  | 600                  | 2.5                       | 2                  |                    | SOP-8(Single) |                     |      | Siemens |
| SPO03N60S5  | 600                  | 1.4                       | 3                  |                    | SOP-8(Single) |                     |      | Siemens |
| SPO04N60S5  | 600                  | 0.95                      | 4                  |                    | SOP-8(Single) |                     |      | Siemens |
| SPP02N60S5  | 600                  | 2.5                       | 2                  |                    | TO-220AB      | 2SK3085             | A    | Siemens |
| SPP03N60S5  | 600                  | 1.4                       | 3                  |                    | TO-220AB      | 2SK2544             | A    | Siemens |
| SPP04N60S5  | 600                  | 0.95                      | 4                  |                    | TO-220AB      | 2SK2866             | A    | Siemens |
| SPP07N60S5  | 600                  | 0.6                       | 7                  |                    | TO-220AB      |                     |      | Siemens |
| SPP20N60S5  | 600                  | 0.19                      | 20                 |                    | TO-220AB      |                     |      | Siemens |
| SPP30N03    | 30                   | 0.023                     | 30                 |                    | TO-220AB      | 2SK2844             | A    | Siemens |
| SPP30N03L   | 30                   | 0.028                     | 30                 |                    | TO-220AB      | 2SK2844             | A    | Siemens |
| SPP46N03    | 30                   | 0.015                     | 46                 |                    | TO-220AB      |                     |      | Siemens |
| SPP46N03L   | 30                   | 0.018                     | 46                 |                    | TO-220AB      | 2SK2844             | A    | Siemens |
| SPP80N03    | 30                   | 0.006                     | 80                 |                    | TO-220AB      |                     |      | Siemens |
| SPP80N03L   | 30                   | 0.008                     | 80                 |                    | TO-220AB      |                     |      | Siemens |
| SPU01N60S5  | 600                  | 6                         | 1                  |                    | I-PAK         | 2SK2865             | A    | Siemens |
| SPU02N60    | 600                  | 5.5                       | 2                  |                    | I-PAK         | 2SK2865             | A    | Siemens |
| SPU02N60S5  | 600                  | 2.5                       | 2                  |                    | I-PAK         |                     |      | Siemens |
| SPU03N60S5  | 600                  | 1.4                       | 3                  |                    | I-PAK         |                     |      | Siemens |
| SPU04N60S5  | 600                  | 0.95                      | 4                  |                    | I-PAK         |                     |      | Siemens |
| SPU07N20    | 200                  | 0.4                       | 7                  |                    | I-PAK         |                     |      | Siemens |
| SPU07N60S5  | 600                  | 0.6                       | 7                  |                    | I-PAK         |                     |      | Siemens |
| SPU08N05L   | 55                   | 0.18                      | 8                  |                    | I-PAK         | 2SK2231             | A    | Siemens |
| SPU08N10    | 100                  | 0.3                       | 8.4                |                    | I-PAK         | 2SK2201             | A    | Siemens |
| SPU08P05    | -50                  | 0.3                       | 8                  |                    | I-PAK         | 2SJ377              | A    | Siemens |
| SPU09N05    | 55                   | 0.15                      | 9                  |                    | I-PAK         | 2SK2231             | A    | Siemens |
| SPU10N10    | 100                  | 0.2                       | 10                 |                    | I-PAK         | 2SK2399             | A    | Siemens |
| SPU13N05L   | 55                   | 0.12                      | 12.8               |                    | I-PAK         | 2SK2782             | A    | Siemens |
| SPU14N05    | 55                   | 0.1                       | 14                 |                    | I-PAK         | 2SK2782             | A    | Siemens |
| SPU21N05L   | 55                   | 0.07                      | 21                 |                    | I-PAK         | 2SK2782             | A    | Siemens |
| SPU23N05    | 55                   | 0.06                      | 23                 |                    | I-PAK         | 2SK2782             | A    | Siemens |
| SPU28N03    | 30                   | 0.023                     | 28                 |                    | I-PAK         |                     |      | Siemens |
| SPU28N03L   | 30                   | 0.018                     | 28                 |                    | I-PAK         |                     |      | Siemens |
| SPU28N05L   | 55                   | 0.05                      | 28                 |                    | I-PAK         | 2SK2782             | A    | Siemens |
| SPU30N03    | 30                   | 0.015                     | 30                 |                    | I-PAK         |                     |      | Siemens |
| SPU30N03L   | 30                   | 0.018                     | 30                 |                    | I-PAK         |                     |      | Siemens |
| SPU31N05    | 55                   | 0.04                      | 31                 |                    | I-PAK         |                     |      | Siemens |
| SPW20N60S5  | 600                  | 0.19                      | 20                 |                    | TO-247        |                     |      | Siemens |
| SS1N50A     | 500                  | 5.5                       | 1.5                | 36                 | I2-PAK        | 2SK2865             | B    | Samsung |
| SSD2005     | -25                  | 0.25                      | -2.3               |                    | SOP-8(Single) | TPC8106-H           | A    | Samsung |
| SSD2007     | 50                   | 0.3                       | 2                  |                    | SOP-8(Dual)   | TPC8205             | A    | Samsung |
| SSD2101     | 30                   | 0.03                      | 7                  |                    | SOP-8(Single) | TPC8006-H           | A    | Samsung |
| SSD2102     | -20                  | 0.06                      | -5.3               |                    | SOP-8(Single) |                     |      | Samsung |
| SSF10N60A   | 600                  | 0.8                       | 6.9                | 90                 | TO-3PIS       | 2SK2699             | B    | Samsung |
| SSF10N80A   | 800                  | 0.95                      | 7                  | 100                | TO-3PIS       |                     |      | Samsung |
| SSF10N90A   | 900                  | 1.2                       | 7                  | 100                | TO-3PIS       | 2SK3017             | A    | Samsung |
| SSF17N60A   | 600                  | 0.45                      | 9                  | 100                | TO-3PIS       | 2SK2953             | A    | Samsung |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------|---------------------|------|---------|
| SSF22N50A   | 500                  | 0.25                      | 12.4               | 100                | TO-3PIS | 2SK2917             | A    | Samsung |
| SSF25N40A   | 400                  | 0.2                       | 14.3               | 100                | TO-3PIS | 2SK1544             | B    | Samsung |
| SSF45N20A   | 200                  | 0.065                     | 26.4               | 100                | TO-3PIS | 2SK2995             | A    | Samsung |
| SSF4N80AS   | 800                  | 3                         | 3.5                | 85                 | TO-3PIS | 2SK2603             | B    | Samsung |
| SSF4N90AS   | 900                  | 3.7                       | 3.5                | 85                 | TO-3PIS | 2SK2719             | B    | Samsung |
| SSF5N80A    | 800                  | 2.2                       | 4                  | 85                 | TO-3PIS | 2SK2604             | B    | Samsung |
| SSF5N90A    | 900                  | 2.9                       | 4                  | 85                 | TO-3PIS | 2SK2610             | B    | Samsung |
| SSF6N70A    | 700                  | 1.8                       | 5                  | 85                 | TO-3PIS | 2SK2274             | B    | Samsung |
| SSF6N80A    | 800                  | 2                         | 4.2                | 90                 | TO-3PIS | 2SK2604             | B    | Samsung |
| SSF6N90A    | 900                  | 2.3                       | 4.2                | 90                 | TO-3PIS | 2SK2610             | B    | Samsung |
| SSF70N10A   | 100                  | 0.023                     | 44                 | 120                | TO-3PIS |                     |      | Samsung |
| SSF7N60A    | 600                  | 1.2                       | 5.4                | 86                 | TO-3PIS | 2SK2602             | B    | Samsung |
| SSF7N80A    | 800                  | 1.8                       | 5                  | 90                 | TO-3PIS | 2SK2746             | B    | Samsung |
| SSF7N90A    | 900                  | 1.8                       | 5                  | 90                 | TO-3PIS | 2SK2847             | A    | Samsung |
| SSF8N80A    | 800                  | 1.5                       | 5.6                | 95                 | TO-3PIS | 2SK2606             | A    | Samsung |
| SSF8N90A    | 900                  | 1.6                       | 5.6                | 95                 | TO-3PIS | 2SK2847             | A    | Samsung |
| SSF9N80A    | 800                  | 1.3                       | 6.3                | 95                 | TO-3PIS | 2SK2606             | A    | Samsung |
| SSF9N90A    | 900                  | 1.4                       | 6.3                | 100                | TO-3PIS | 2SK2847             | A    | Samsung |
| SSH10N60A   | 600                  | 0.8                       | 10                 | 193                | TO-3P   | 2SK2699             | A    | Samsung |
| SSH10N80A   | 800                  | 0.95                      | 10                 | 280                | TO-3P   |                     |      | Samsung |
| SSH10N90A   | 900                  | 1.2                       | 10                 | 280                | TO-3P   | 2SK2968             | A    | Samsung |
| SSH17N60A   | 600                  | 0.45                      | 17                 | 278                | TO-3P   | 2SK2915             | A    | Samsung |
| SSH22N50A   | 500                  | 0.25                      | 22                 | 278                | TO-3P   | 2SK2837             | A    | Samsung |
| SSH25N40A   | 400                  | 0.2                       | 25                 | 278                | TO-3P   | 2SK1544             | B    | Samsung |
| SSH45N20A   | 200                  | 0.065                     | 45                 | 278                | TO-3P   | 2SK3176             | A    | Samsung |
| SSH4N80AS   | 800                  | 3                         | 4.5                | 140                | TO-3P   | 2SK2603             | B    | Samsung |
| SSH4N90AS   | 900                  | 3.7                       | 4.5                | 140                | TO-3P   | 2SK2719             | A    | Samsung |
| SSH5N80A    | 800                  | 2.2                       | 5                  | 160                | TO-3P   | 2SK2604             | A    | Samsung |
| SSH5N90A    | 900                  | 2.9                       | 5                  | 160                | TO-3P   | 2SK2610             | A    | Samsung |
| SSH6N70A    | 700                  | 1.8                       | 6                  | 140                | TO-3P   | 2SK2389             | B    | Samsung |
| SSH6N80AS   | 800                  | 2                         | 6                  | 200                | TO-3P   | 2SK2604             | A    | Samsung |
| SSH6N90A    | 900                  | 2.3                       | 6                  | 200                | TO-3P   | 2SK2610             | A    | Samsung |
| SSH70N10A   | 100                  | 0.023                     | 70                 | 300                | TO-3P   |                     |      | Samsung |
| SSH7N60A    | 600                  | 1.2                       | 7.3                | 160                | TO-3P   | 2SK2602             | A    | Samsung |
| SSH7N80A    | 800                  | 1.8                       | 7                  | 200                | TO-3P   | 2SK2746             | A    | Samsung |
| SSH7N90A    | 900                  | 1.8                       | 7                  | 240                | TO-3P   | 2SK2611             | A    | Samsung |
| SSH8N80A    | 800                  | 1.5                       | 8                  | 240                | TO-3P   | 2SK2746             | A    | Samsung |
| SSH8N90A    | 900                  | 1.6                       | 8                  | 240                | TO-3P   | 2SK2611             | A    | Samsung |
| SSH9N80A    | 800                  | 1.3                       | 9                  | 240                | TO-3P   | 2SK2607             | A    | Samsung |
| SSH9N90A    | 900                  | 1.4                       | 9                  | 280                | TO-3P   | 2SK2611             | A    | Samsung |
| SSI1N60A    | 600                  | 12                        | 1                  | 34                 | I2-PAK  | 2SK2865             | B    | Samsung |
| SSI2N60A    | 600                  | 5                         | 2                  | 54                 | I2-PAK  | 2SK2865             | B    | Samsung |
| SSI2N80A    | 800                  | 6                         | 2                  | 80                 | I2-PAK  | 2SK2883             | A    | Samsung |
| SSI2N90A    | 900                  | 7                         | 2                  | 80                 | I2-PAK  |                     |      | Samsung |
| SSI3N80A    | 800                  | 4.8                       | 3                  | 100                | I2-PAK  | 2SK2884             | A    | Samsung |
| SSI3N90A    | 900                  | 6.2                       | 3                  | 100                | I2-PAK  |                     |      | Samsung |
| SSI4N60A    | 600                  | 2.5                       | 4                  | 100                | I2-PAK  | 2SK2777             | A    | Samsung |
| SSI4N80A    | 800                  | 4                         | 4                  | 120                | I2-PAK  | 2SK2884             | A    | Samsung |
| SSI4N80AS   | 800                  | 3                         | 4.5                | 130                | I2-PAK  | 2SK2883             | A    | Samsung |
| SSI4N90A    | 900                  | 5                         | 4                  | 120                | I2-PAK  | 2SK3088             | A    | Samsung |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| SSI4N90AS   | 900                  | 3.7                       | 4.5                | 130                | I2-PAK   | 2SK3088             | A    | Samsung |
| SSI5N80A    | 800                  | 2.2                       | 5                  | 140                | I2-PAK   | 2SK2884             | A    | Samsung |
| SSI5N90A    | 900                  | 2.9                       | 5                  | 140                | I2-PAK   |                     |      | Samsung |
| SSI6N70A    | 700                  | 1.8                       | 6                  | 130                | I2-PAK   |                     |      | Samsung |
| SSI7N60A    | 600                  | 1.2                       | 7                  | 147                | I2-PAK   | 2SK2777             | A    | Samsung |
| SSP10N60A   | 600                  | 0.8                       | 9                  | 156                | TO-220AB | 2SK2866             | A    | Samsung |
| SSP1N50A    | 500                  | 5.5                       | 1.5                | 36                 | TO-220AB | 2SK2661             | A    | Samsung |
| SSP1N60A    | 600                  | 12                        | 1                  | 34                 | TO-220AB | 2SK3067             | B    | Samsung |
| SSP2N60A    | 600                  | 5                         | 2                  | 54                 | TO-220AB | 2SK3067             | B    | Samsung |
| SSP2N80A    | 800                  | 6                         | 2                  | 80                 | TO-220AB | 2SK2603             | A    | Samsung |
| SSP2N90A    | 900                  | 7                         | 2                  | 80                 | TO-220AB | 2SK2718             | B    | Samsung |
| SSP3N80A    | 800                  | 4.8                       | 3                  | 100                | TO-220AB | 2SK2603             | A    | Samsung |
| SSP3N90A    | 900                  | 6.2                       | 3                  | 100                | TO-220AB | 2SK2718             | B    | Samsung |
| SSP45N20A   | 200                  | 0.065                     | 35                 | 176                | TO-220AB |                     |      | Samsung |
| SSP4N60AS   | 600                  | 2.5                       | 4                  | 100                | TO-220AB | 2SK2750             | B    | Samsung |
| SSP4N80A    | 800                  | 4                         | 4                  | 120                | TO-220AB | 2SK2603             | A    | Samsung |
| SSP4N80AS   | 800                  | 3                         | 4.5                | 130                | TO-220AB | 2SK2603             | A    | Samsung |
| SSP4N90A    | 900                  | 5                         | 4                  | 120                | TO-220AB | 2SK2608             | A    | Samsung |
| SSP4N90AS   | 900                  | 3.7                       | 4.5                | 130                | TO-220AB | 2SK2608             | A    | Samsung |
| SSP5N80A    | 800                  | 2.2                       | 5                  | 140                | TO-220AB | 2SK2605             | B    | Samsung |
| SSP5N90A    | 900                  | 2.9                       | 5                  | 140                | TO-220AB | 2SK2717             | B    | Samsung |
| SSP6N70A    | 700                  | 1.8                       | 6                  | 130                | TO-220AB | 2SK2997             | B    | Samsung |
| SSP6N80A    | 800                  | 2                         | 6                  | 160                | TO-220AB | 2SK2605             | B    | Samsung |
| SSP6N90A    | 900                  | 2.3                       | 6                  | 160                | TO-220AB | 2SK2717             | B    | Samsung |
| SSP70N10A   | 100                  | 0.023                     | 55                 | 188                | TO-220AB |                     |      | Samsung |
| SSP7N60A    | 600                  | 1.2                       | 7                  | 147                | TO-220AB | 2SK2544             | A    | Samsung |
| SSP7N80A    | 800                  | 1.8                       | 7                  | 160                | TO-220AB |                     |      | Samsung |
| SSR1N50A    | 500                  | 5.5                       | 1.3                | 26                 | D-PAK    | 2SK2865             | A    | Samsung |
| SSR1N60A    | 600                  | 12                        | 0.9                | 28                 | D-PAK    | 2SK2865             | A    | Samsung |
| SSR2N60A    | 600                  | 5                         | 1.8                | 44                 | D-PAK    | 2SK2865             | A    | Samsung |
| SSR3055A    | 60                   | 0.15                      | 8                  | 18                 | D-PAK    | 2SK2231             | A    | Samsung |
| SSR4N60A    | 600                  | 2.5                       | 2.8                | 49                 | D-PAK    |                     |      | Samsung |
| SSS10N60A   | 600                  | 0.8                       | 5.1                | 50                 | TO-220IS | 2SK2843             | A    | Samsung |
| SSS1N50A    | 500                  | 5.5                       | 1.2                | 23                 | TO-220IS | 2SK2662             | A    | Samsung |
| SSS1N60A    | 600                  | 12                        | 0.7                | 17                 | TO-220IS | 2SK3067             | A    | Samsung |
| SSS2N60A    | 600                  | 5                         | 1.3                | 23                 | TO-220IS | 2SK3067             | A    | Samsung |
| SSS2N80A    | 800                  | 6                         | 1.5                | 30                 | TO-220IS | 2SK2603             | B    | Samsung |
| SSS2N90A    | 900                  | 7                         | 1.5                | 30                 | TO-220IS | 2SK2718             | A    | Samsung |
| SSS3N80A    | 800                  | 4.8                       | 2                  | 35                 | TO-220IS | 2SK2603             | B    | Samsung |
| SSS3N90A    | 900                  | 6.2                       | 2                  | 35                 | TO-220IS | 2SK2718             | A    | Samsung |
| SSS4N60AS   | 600                  | 2.5                       | 2.3                | 33                 | TO-220IS | 2SK2750             | A    | Samsung |
| SSS4N80A    | 800                  | 4                         | 2.5                | 40                 | TO-220IS | 2SK2603             | B    | Samsung |
| SSS4N80AS   | 800                  | 3                         | 2.8                | 40                 | TO-220IS | 2SK2603             | B    | Samsung |
| SSS4N90A    | 900                  | 5                         | 2.5                | 40                 | TO-220IS | 2SK2700             | A    | Samsung |
| SSS4N90AS   | 900                  | 3.7                       | 2.8                | 40                 | TO-220IS | 2SK2700             | A    | Samsung |
| SSS5N80A    | 800                  | 2.2                       | 3                  | 45                 | TO-220IS | 2SK2605             | A    | Samsung |
| SSS5N90A    | 900                  | 2.9                       | 3                  | 45                 | TO-220IS | 2SK2717             | A    | Samsung |
| SSS6N70A    | 700                  | 1.8                       | 4                  | 40                 | TO-220IS | 2SK2274             | A    | Samsung |
| SSS6N80A    | 800                  | 2                         | 3.5                | 50                 | TO-220IS | 2SK2605             | A    | Samsung |
| SSS6N90A    | 900                  | 2.3                       | 3.5                | 50                 | TO-220IS | 2SK2717             | A    | Samsung |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender  |
|---------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|---------|
| SSS70N10A     | 100                  | 0.023                     | 28                 | 49                 | TO-220IS |                     |      | Samsung |
| SSS7N60A      | 600                  | 1.2                       | 4                  | 48                 | TO-220IS | 2SK2545             | A    | Samsung |
| SSS7N80A      | 800                  | 1.8                       | 4                  | 50                 | TO-220IS |                     |      | Samsung |
| SSU1N50A      | 500                  | 5.5                       | 1.3                | 26                 | I-PAK    | 2SK2865             | A    | Samsung |
| SSU1N60A      | 600                  | 12                        | 0.9                | 28                 | I-PAK    | 2SK2865             | A    | Samsung |
| SSU2N60A      | 600                  | 5                         | 1.8                | 44                 | I-PAK    | 2SK2865             | A    | Samsung |
| SSU2N80A      | 800                  | 6                         | 1.7                | 45                 | I-PAK    |                     |      | Samsung |
| SSU2N90A      | 900                  | 7                         | 1.7                | 45                 | I-PAK    |                     |      | Samsung |
| SSU3055A      | 60                   | 0.15                      | 8                  | 18                 | I-PAK    | 2SK2231             | A    | Samsung |
| SSU3N80A      | 800                  | 4.8                       | 2.5                | 50                 | I-PAK    |                     |      | Samsung |
| SSU3N90A      | 900                  | 6.2                       | 2.5                | 50                 | I-PAK    |                     |      | Samsung |
| SSU4N60A      | 600                  | 2.5                       | 2.8                | 49                 | I-PAK    |                     |      | Samsung |
| SSW1N50A      | 500                  | 5.5                       | 1.5                | 36                 | D2-PAK   | 2SK2865             | B    | Samsung |
| SSW1N60A      | 600                  | 12                        | 1                  | 34                 | D2-PAK   | 2SK2865             | B    | Samsung |
| SSW2N60A      | 600                  | 5                         | 2                  | 54                 | D2-PAK   | 2SK2865             | B    | Samsung |
| SSW4N60A      | 600                  | 2.5                       | 4                  | 100                | D2-PAK   | 2SK2777             | A    | Samsung |
| SSW7N60A      | 600                  | 1.2                       | 7                  | 147                | D2-PAK   | 2SK2777             | A    | Samsung |
| STB11NB40     | 400                  | 0.55                      | 10                 |                    | D2PAK    | 2SK2949             | A    | ST      |
| STB16NB25     | 250                  | 0.25                      | 16                 |                    | D2PAK    | 2SK2598             | A    | ST      |
| STB19NB20     | 200                  | 0.18                      | 19                 |                    | D2PAK    | 2SK2401             | A    | ST      |
| STB40NE03L-20 | 30                   | 0.02                      | 40                 |                    | D2PAK    | 2SK3090             | A    | ST      |
| STB50NE08     | 80                   | 0.024                     | 50                 |                    | D2PAK    |                     |      | ST      |
| STB50NE10     | 100                  | 0.028                     | 50                 |                    | D2PAK    |                     |      | ST      |
| STB50NE10L    | 100                  | 0.025                     | 50                 |                    | D2PAK    |                     |      | ST      |
| STB55NE06     | 60                   | 0.022                     | 55                 |                    | D2PAK    | 2SK2376             | A    | ST      |
| STB55NE06L    | 60                   | 0.022                     | 55                 |                    | D2PAK    | 2SK2376             | A    | ST      |
| STB5NB60      | 600                  | 2                         | 5                  |                    | D2PAK    | 2SK2777             | A    | ST      |
| STB60NE03L-10 | 30                   | 0.01                      | 60                 |                    | D2PAK    | 2SK3127             | A    | ST      |
| STB60NE06-16  | 60                   | 0.016                     | 60                 |                    | D2PAK    | 2SK2376             | A    | ST      |
| STB60NE06L-16 | 60                   | 0.016                     | 60                 |                    | D2PAK    | 2SK2376             | A    | ST      |
| STB6NB50      | 500                  | 1.5                       | 6                  |                    | D2PAK    | 2SK2991             | A    | ST      |
| STB7NB40      | 400                  | 0.9                       | 7                  |                    | D2PAK    | 2SK2949             | A    | ST      |
| STB7NB60      | 600                  | 1.2                       | 7.2                |                    | D2PAK    | 2SK2777             | A    | ST      |
| STB80NE03L-06 | 30                   | 0.006                     | 80                 |                    | D2PAK    |                     |      | ST      |
| STB80NE06-10  | 60                   | 0.01                      | 80                 |                    | D2PAK    | 2SK2986             | A    | ST      |
| STB9NB50      | 500                  | 0.85                      | 8.6                |                    | D2PAK    | 2SK2776             | A    | ST      |
| STB9NB60-1    | 600                  | 0.75                      | 9                  |                    | D2PAK    | 2SK2889             | A    | ST      |
| STD12N05      | 50                   | 0.15                      | 12                 | 45                 | D-PAK    | 2SK2030             | A    | ST      |
| STD12N05L     | 50                   | 0.15                      | 12                 | 45                 | D-PAK    | 2SK2231             | A    | ST      |
| STD12N06      | 60                   | 0.15                      | 12                 | 45                 | D-PAK    | 2SK2231             | A    | ST      |
| STD12N06L     | 60                   | 0.15                      | 12                 | 45                 | D-PAK    | 2SK2231             | A    | ST      |
| STD12N10L     | 100                  | 0.16                      | 12                 |                    | D-PAK    |                     |      | ST      |
| STD12NE06     | 60                   | 0.12                      | 12                 |                    | DPAK     | 2SK2782             | A    | ST      |
| STD12NE06L    | 60                   | 0.12                      | 12                 |                    | DPAK     | 2SK2782             | A    | ST      |
| STD16NE06     | 60                   | 0.085                     | 16                 |                    | DPAK     | 2SK2782             | A    | ST      |
| STD16NE06L    | 60                   | 0.085                     | 16                 |                    | DPAK     | 2SK2782             | A    | ST      |
| STD16NE10     | 100                  | 0.1                       | 16                 |                    | DPAK     |                     |      | ST      |
| STD17N05      | 50                   | 0.085                     | 17                 | 55                 | D-PAK    | 2SK2614             | A    | ST      |
| STD17N05L     | 50                   | 0.085                     | 17                 | 55                 | D-PAK    | 2SK2614             | A    | ST      |
| STD17N06      | 60                   | 0.085                     | 17                 | 55                 | D-PAK    | 2SK2782             | A    | ST      |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|---------|---------------------|------|--------|
| STD17N06L   | 60                   | 0.085                     | 17                 | 55                 | D-PAK   | 2SK2782             | A    | ST     |
| STD17NE03L  | 30                   | 0.05                      | 18                 |                    | D-PAK   |                     |      | ST     |
| STD1NA60-1  | 600                  | 8                         | 1.6                |                    | DPAK    | 2SK2865             | A    | ST     |
| STD1NB50-1  | 500                  | 9                         | 1.5                |                    | DPAK    | 2SK2865             | A    | ST     |
| STD1NB50S-1 | 500                  | 16                        | 1                  |                    | DPAK    | 2SK2998             | B    | ST     |
| STD1NB52-1  | 520                  | 10                        | 1.4                |                    | DPAK    | 2SK2865             | A    | ST     |
| STD1NB80    | 800                  | 20                        | 0.87               |                    | DPAK    |                     |      | ST     |
| STD20NE03L  | 30                   | 0.02                      | 20                 |                    | D-PAK   |                     |      | ST     |
| STD20NE06   | 60                   | 0.04                      | 20                 |                    | D-PAK   |                     |      | ST     |
| STD2N50-1   | 500                  | 5.5                       | 2.2                | 45                 | I-PAK   | 2SK2865             | A    | ST     |
| STD2NA50    | 500                  | 4                         | 2.2                |                    | DPAK    | 2SK2599             | B    | ST     |
| STD2NB25-1  | 250                  | 2                         | 2                  |                    | DPAK    |                     |      | ST     |
| STD2NB60    | 600                  | 3.6                       | 2                  |                    | DPAK    |                     |      | ST     |
| STD2NB80-1  | 800                  | 6.5                       | 2                  |                    | DPAK    | 2SK2997             | A    | ST     |
| STD30NE06   | 60                   | 0.03                      | 30                 |                    | DPAK    |                     |      | ST     |
| STD30NE06L  | 60                   | 0.03                      | 30                 |                    | DPAK    |                     |      | ST     |
| STD3N30-1   | 300                  | 1.4                       | 3                  | 50                 | I-PAK   |                     |      | ST     |
| STD3N30L    | 250                  | 1.1                       | 4                  | 50                 | I-PAK   |                     |      | ST     |
| STD3N30L-1  | 300                  | 1.4                       | 3                  | 50                 | I-PAK   |                     |      | ST     |
| STD3NB30    | 300                  | 2                         | 3.2                |                    | DPAK    |                     |      | ST     |
| STD3NB50    | 500                  | 2.8                       | 3                  |                    | DPAK    |                     |      | ST     |
| STD4N20     | 200                  | 1.5                       | 4                  |                    | D-PAK   | 2SK2920             | A    | ST     |
| STD4NB25    | 250                  | 1.1                       | 4                  |                    | DPAK    |                     |      | ST     |
| STD4NB40    | 400                  | 1.8                       | 3.7                |                    | DPAK    |                     |      | ST     |
| STD5N20-1   | 200                  | 0.8                       | 5                  |                    | D-PAK   | 2SK2920             | A    | ST     |
| STD5NB30    | 300                  | 0.9                       | 5                  |                    | DPAK    |                     |      | ST     |
| STD7NB20    | 200                  | 0.4                       | 7.5                |                    | D-PAK   |                     |      | ST     |
| STD8N10     | 100                  | 0.3                       | 8                  | 45                 | D-PAK   | 2SK2201             | A    | ST     |
| STD8N10L    | 100                  | 0.3                       | 8                  | 45                 | D-PAK   | 2SK2201             | A    | ST     |
| STD9N10     | 100                  | 0.27                      | 9                  |                    | D-PAK   | 2SK2399             | A    | ST     |
| STD9N10L    | 100                  | 0.27                      | 9                  |                    | D-PAK   | 2SK2399             | A    | ST     |
| STE100N20   | 200                  | 0.021                     | 100                | 450                | ISOTOP  |                     |      | ST     |
| STE110NA20  | 200                  | 0.019                     | 110                |                    | ISOTOP  |                     |      | ST     |
| STE150N10   | 100                  | 0.009                     | 150                | 410                | ISOTOP  |                     |      | ST     |
| STE15N100   | 1000                 | 0.77                      | 15                 | 400                | ISOTOP  |                     |      | ST     |
| STE15NA100  | 1000                 | 0.77                      | 15                 |                    | ISOTOP  |                     |      | ST     |
| STE16N100   | 1000                 | 0.7                       | 16                 | 400                | ISOTOP  |                     |      | ST     |
| STE180N05   | 50                   | 0.006                     | 180                | 360                | ISOTOP  |                     |      | ST     |
| STE180N10   | 100                  | 0.007                     | 180                | 450                | ISOTOP  |                     |      | ST     |
| STE22N80    | 800                  | 0.4                       | 22                 | 400                | ISOTOP  |                     |      | ST     |
| STE24NA100  | 1000                 | 0.375                     | 24                 |                    | ISOTOP  |                     |      | ST     |
| STE250N05   | 50                   | 0.004                     | 250                | 450                | ISOTOP  |                     |      | ST     |
| STE250N06   | 60                   | 0.004                     | 250                |                    | ISOTOP  |                     |      | ST     |
| STE26N50    | 500                  | 0.2                       | 26                 | 300                | ISOTOP  |                     |      | ST     |
| STE26NA90   | 900                  | 0.3                       | 26                 |                    | ISOTOP  |                     |      | ST     |
| STE36N50    | 500                  | 0.14                      | 36                 | 410                | ISOTOP  |                     |      | ST     |
| STE38N60    | 600                  | 0.15                      | 38                 | 450                | ISOTOP  |                     |      | ST     |
| STE38NB50   | 500                  | 0.13                      | 38                 |                    | ISOTOP  |                     |      | ST     |
| STE40N55    | 550                  | 0.12                      | 40                 | 450                | ISOTOP  |                     |      | ST     |
| STE40NA60   | 600                  | 0.12                      | 40                 |                    | ISOTOP  |                     |      | ST     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package    | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|------------|---------------------|------|--------|
| STE45N50    | 500                  | 0.11                      | 45                 | 450                | ISOTOP     |                     |      | ST     |
| STE47N50    | 500                  | 0.1                       | 47                 | 450                | ISOTOP     |                     |      | ST     |
| STE50N40    | 400                  | 0.075                     | 50                 | 450                | ISOTOP     |                     |      | ST     |
| STE53NA50   | 500                  | 0.085                     | 53                 |                    | ISOTOP     |                     |      | ST     |
| STH10NA50   | 500                  | 0.8                       | 9.6                | 150                | TO-218     | 2SK2601             | A    | ST     |
| STH10NA50FI | 500                  | 0.8                       | 5.6                | 60                 | TO-218IS   | 2SK2600             | A    | ST     |
| STH12N60    | 600                  | 0.6                       | 12                 | 180                | TO-218     | 2SK2699             | A    | ST     |
| STH12N60FI  | 600                  | 0.6                       | 7                  | 70                 | TO-218IS   | 2SK2699             | B    | ST     |
| STH13NB60FI | 600                  | 0.55                      | 7                  |                    | ISOWATT218 | 2SK2953             | A    | ST     |
| STH14N50    | 500                  | 0.45                      | 14.1               | 180                | TO-218     | 2SK2698             | A    | ST     |
| STH14N50FI  | 500                  | 0.45                      | 8.8                | 70                 | TO-218IS   | 2SK2698             | B    | ST     |
| STH15N50    | 500                  | 0.4                       | 15                 | 180                | TO-218     | 2SK2698             | A    | ST     |
| STH15N50FI  | 500                  | 0.4                       | 9.3                | 70                 | TO-218IS   | 2SK2916             | A    | ST     |
| STH15NB50FI | 500                  | 0.36                      | 9.3                |                    | ISOWATT218 | 2SK2916             | A    | ST     |
| STH18NB40FI | 400                  | 0.3                       | 10                 |                    | ISOWATT218 | 2SK2837             | A    | ST     |
| STH26N25    | 250                  | 0.11                      | 26                 | 180                | TO-218     | 2SK2967             | A    | ST     |
| STH26N25FI  | 250                  | 0.11                      | 16                 | 70                 | TO-218IS   | 2SK2995             | A    | ST     |
| STH33N20    | 200                  | 0.085                     | 33                 | 180                | TO-218     | 2SK3176             | A    | ST     |
| STH33N20FI  | 200                  | 0.085                     | 20                 | 70                 | TO-218IS   | 2SK2995             | A    | ST     |
| STH45N10    | 100                  | 0.04                      | 45                 | 180                | TO-218     | 2SK2466             | B    | ST     |
| STH45N10FI  | 100                  | 0.04                      | 27                 | 65                 | TO-218IS   | 2SK2466             | B    | ST     |
| STH4N80     | 800                  | 3                         | 4.3                | 125                | TO-218     | 2SK2603             | B    | ST     |
| STH4N80FI   | 800                  | 3                         | 2.8                | 55                 | TO-218IS   | 2SK2603             | B    | ST     |
| STH4N90     | 900                  | 3.2                       | 4.2                | 125                | TO-218     | 2SK2610             | A    | ST     |
| STH4N90FI   | 900                  | 3.2                       | 2.7                | 55                 | TO-218IS   | 2SK2719             | B    | ST     |
| STH55N10    | 100                  | 0.03                      | 55                 | 200                | TO-218     | 2SK1381             | A    | ST     |
| STH55N10FI  | 100                  | 0.03                      | 34                 | 80                 | TO-218IS   | 2SK1381             | A    | ST     |
| STH5N90     | 900                  | 2.4                       | 5.3                | 150                | TO-218     | 2SK2610             | A    | ST     |
| STH5N90FI   | 900                  | 2.4                       | 3.5                | 60                 | TO-218IS   | 2SK2610             | B    | ST     |
| STH5NA100FI | 1000                 | 3.5                       | 2.9                |                    | ISOWATT218 | 2SK1365             | A    | ST     |
| STH60N10    | 100                  | 0.025                     | 60                 | 200                | TO-218     |                     |      | ST     |
| STH60N10FI  | 100                  | 0.025                     | 38                 | 80                 | TO-218IS   |                     |      | ST     |
| STH65N05    | 50                   | 0.02                      | 65                 | 180                | TO-218     | 2SK2445             | A    | ST     |
| STH65N05FI  | 50                   | 0.02                      | 38                 | 65                 | TO-218IS   | 2SK2744             | B    | ST     |
| STH65N06    | 60                   | 0.02                      | 65                 | 180                | TO-218     | 2SK2173             | A    | ST     |
| STH65N06FI  | 60                   | 0.02                      | 38                 | 65                 | TO-218IS   | 2SK2173             | B    | ST     |
| STH6N100    | 1000                 | 2                         | 6                  | 180                | TO-218     | 2SK1120             | A    | ST     |
| STH6N100FI  | 1000                 | 2                         | 3.7                | 70                 | TO-218IS   | 2SK1365             | A    | ST     |
| STH6NA80    | 800                  | 2.4                       | 5.8                | 150                | TO-218     | 2SK2604             | A    | ST     |
| STH6NA80FI  | 800                  | 2.4                       | 3.7                | 60                 | TO-218IS   | 2SK2604             | B    | ST     |
| STH75N06    | 60                   | 0.014                     | 75                 | 200                | TO-218     | 2SK2313             | A    | ST     |
| STH75N06FI  | 60                   | 0.014                     | 50                 | 80                 | TO-218IS   | 2SK2313             | B    | ST     |
| STH7N90     | 900                  | 1.4                       | 7.5                | 180                | TO-218     | 2SK2611             | A    | ST     |
| STH7N90FI   | 900                  | 1.4                       | 4.5                | 70                 | TO-218IS   | 2SK2611             | A    | ST     |
| STH7NA100FI | 1000                 | 1.7                       | 4.3                |                    | ISOWATT218 | 2SK2613             | B    | ST     |
| STH7NA60    | 600                  | 1.2                       | 7.2                | 150                | TO-218     | 2SK2602             | A    | ST     |
| STH7NA60FI  | 600                  | 1.2                       | 4.6                | 60                 | TO-218IS   | 2SK2602             | B    | ST     |
| STH7NA80    | 800                  | 1.9                       | 6.5                | 150                | TO-218     | 2SK2746             | A    | ST     |
| STH7NA80FI  | 800                  | 1.9                       | 4                  |                    | ISOWATT218 | 2SK2604             | B    | ST     |
| STH80N05    | 50                   | 0.012                     | 80                 | 200                | TO-218     | 2SK2551             | A    | ST     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package    | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|------------|---------------------|------|--------|
| STH80N05FI  | 50                   | 0.012                     | 52                 | 70                 | TO-218IS   | 2SK2551             | B    | ST     |
| STH8N80     | 800                  | 1.2                       | 8.2                | 180                | TO-218     | 2SK2607             | A    | ST     |
| STH8N80FI   | 800                  | 1.2                       | 5.1                | 70                 | TO-218IS   | 2SK2606             | A    | ST     |
| STH8NA60    | 600                  | 1                         | 8                  | 150                | TO-218     | 2SK2602             | A    | ST     |
| STH8NA60FI  | 600                  | 1                         | 4.3                | 45                 | TO-218IS   | 2SK2602             | B    | ST     |
| STH8NA80FI  | 800                  | 1.5                       | 4.5                |                    | ISOWATT218 | 2SK2746             | B    | ST     |
| STH9N80     | 800                  | 1                         | 9                  | 180                | TO-218     | 2SK2607             | A    | ST     |
| STH9N80FI   | 800                  | 1                         | 5.6                | 70                 | TO-218IS   | 2SK2606             | A    | ST     |
| STHV102     | 1000                 | 3.5                       | 4.2                | 150                | TO-218     | 2SK1359             | A    | ST     |
| STHV102FI   | 1000                 | 3.5                       | 2.6                | 60                 | TO-218IS   | 2SK1359             | B    | ST     |
| STHV82      | 800                  | 2                         | 5.5                | 150                | TO-218     | 2SK2604             | A    | ST     |
| STHV82FI    | 800                  | 2                         | 3.6                | 60                 | TO-218IS   | 2SK2604             | B    | ST     |
| STK12N05L   | 50                   | 0.15                      | 12                 | 50                 | SOT-82     |                     |      | ST     |
| STK12N06L   | 60                   | 0.15                      | 12                 | 50                 | SOT-82     |                     |      | ST     |
| STK14N05    | 50                   | 0.12                      | 14                 | 50                 | SOT-82     |                     |      | ST     |
| STK14N06    | 60                   | 0.12                      | 14                 | 50                 | SOT-82     |                     |      | ST     |
| STK14N10    | 100                  | 0.14                      | 14                 | 65                 | SOT-82     |                     |      | ST     |
| STK16N10L   | 100                  | 0.12                      | 16                 | 65                 | SOT-82     |                     |      | ST     |
| STK17N10    | 100                  | 0.11                      | 17                 | 65                 | SOT-82     |                     |      | ST     |
| STK18N05    | 50                   | 0.085                     | 18                 | 60                 | SOT-82     | 2SK2614             | B    | ST     |
| STK18N05L   | 50                   | 0.085                     | 18                 | 60                 | SOT-82     | 2SK2614             | B    | ST     |
| STK18N06    | 60                   | 0.085                     | 18                 | 60                 | SOT-82     |                     |      | ST     |
| STK18N06L   | 60                   | 0.085                     | 18                 | 60                 | SOT-82     |                     |      | ST     |
| STK22N05    | 50                   | 0.065                     | 22                 | 65                 | SOT-82     |                     |      | ST     |
| STK22N06    | 60                   | 0.065                     | 22                 | 65                 | SOT-82     |                     |      | ST     |
| STK23N05L   | 50                   | 0.055                     | 23                 | 65                 | SOT-82     |                     |      | ST     |
| STK23N06L   | 60                   | 0.05                      | 23                 | 65                 | SOT-82     |                     |      | ST     |
| STK2N50     | 500                  | 6                         | 2                  | 50                 | SOT-82     |                     |      | ST     |
| STK2N60     | 600                  | 8                         | 1.7                | 50                 | SOT-82     |                     |      | ST     |
| STK2N80     | 800                  | 7                         | 2.1                | 70                 | SOT-82     |                     |      | ST     |
| STK3055E    | 60                   | 0.15                      | 12                 | 50                 | SOT-82     |                     |      | ST     |
| STK3N50     | 500                  | 3.8                       | 2.7                | 60                 | SOT-82     |                     |      | ST     |
| STK4N25     | 250                  | 1.1                       | 4                  | 50                 | SOT-82     |                     |      | ST     |
| STK4N30     | 300                  | 1.4                       | 4.2                | 50                 | SOT-82     |                     |      | ST     |
| STK4N30L    | 300                  | 1.4                       | 4.2                | 50                 | SOT-82     |                     |      | ST     |
| STK4N40     | 400                  | 2.2                       | 3.7                | 60                 | SOT-82     |                     |      | ST     |
| STK6N20     | 200                  | 0.7                       | 6                  | 60                 | SOT-82     |                     |      | ST     |
| STK9N10     | 100                  | 0.3                       | 9                  | 50                 | SOT-82     |                     |      | ST     |
| STN1N20     | 200                  | 1.5                       | 1                  |                    | SOT-223    |                     |      | ST     |
| STN1NB80    | 800                  | 20                        | 0.2                |                    | SOT-223    |                     |      | ST     |
| STN2N10     | 100                  | 0.27                      | 2                  |                    | SOT-223    | 2SK2742             | A    | ST     |
| STN2NE10L   | 100                  | 0.45                      | 2                  |                    | SOT-223    | 2SK2742             | A    | ST     |
| STN3NE06    | 60                   | 0.12                      | 3                  |                    | SOT-223    | 2SK2741             | A    | ST     |
| STN3NE06L   | 60                   | 0.12                      | 3                  |                    | SOT-223    | 2SK2741             | A    | ST     |
| STN4NE03    | 30                   | 0.06                      | 4                  |                    | SOT-223    | 2SK2839             | A    | ST     |
| STN4NE03L   | 30                   | 0.05                      | 4                  |                    | SOT-223    | 2SK2839             | A    | ST     |
| STP10NA40   | 400                  | 0.55                      | 10                 | 125                | TO-220AB   | 2SK2841             | A    | ST     |
| STP10NA40FI | 400                  | 0.55                      | 6                  | 45                 | TO-220IS   | 2SK2952             | A    | ST     |
| STP10NB20   | 200                  | 0.4                       | 10                 |                    | TO-220     |                     |      | ST     |
| STP10NB20FP | 200                  | 0.4                       | 6                  |                    | TO-220FP   | 2SK2350             | A    | ST     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package  | Toshiba Replacement | Note | Vender |
|--------------|----------------------|---------------------------|--------------------|--------------------|----------|---------------------|------|--------|
| STP11NB40    | 400                  | 0.55                      | 10.7               |                    | TO-220AB | 2SK2841             | A    | ST     |
| STP11NB40FP  | 400                  | 0.55                      | 6                  |                    | TO-220FP | 2SK2952             | A    | ST     |
| STP12NB30    | 300                  | 0.4                       | 12                 |                    | TO-220   |                     |      | ST     |
| STP12NB30FP  | 300                  | 0.4                       | 6.5                |                    | TO-220FP |                     |      | ST     |
| STP15N05L    | 50                   | 0.15                      | 15                 | 70                 | TO-220AB | 2SK2507             | B    | ST     |
| STP15N05LFI  | 50                   | 0.15                      | 10                 | 35                 | TO-220IS | 2SK2507             | A    | ST     |
| STP15N06L    | 60                   | 0.15                      | 15                 | 70                 | TO-220AB | 2SK2231             | B    | ST     |
| STP15N06LFI  | 60                   | 0.15                      | 10                 | 35                 | TO-220IS | 2SK2231             | B    | ST     |
| STP16N10L    | 100                  | 0.16                      | 16                 |                    | TO-220AB | 2SK2314             | A    | ST     |
| STP16NB25    | 250                  | 0.25                      | 16                 |                    | TO-220AB | 2SK2508             | B    | ST     |
| STP16NE06    | 60                   | 0.12                      | 16                 |                    | TO-220AB | 2SK2232             | B    | ST     |
| STP16NE06FP  | 60                   | 0.12                      | 10                 |                    | TO-220FP | 2SK2232             | B    | ST     |
| STP16NE06L   | 60                   | 0.12                      | 16                 |                    | TO-220AB | 2SK2232             | B    | ST     |
| STP16NE06LFP | 60                   | 0.12                      | 10                 |                    | TO-220FP | 2SK2232             | B    | ST     |
| STP18N10     | 100                  | 0.14                      | 18                 | 90                 | TO-220AB | 2SK2314             | A    | ST     |
| STP18N10FI   | 100                  | 0.14                      | 11                 | 40                 | TO-220IS | 2SK2391             | A    | ST     |
| STP19NB20    | 200                  | 0.18                      | 19                 |                    | TO-220AB | YTA640              | A    | ST     |
| STP19NB20FP  | 200                  | 0.18                      | 10                 |                    | TO-220FP | 2SK2382             | A    | ST     |
| STP20N06     | 60                   | 0.085                     | 20                 | 80                 | TO-220AB | 2SK2232             | B    | ST     |
| STP20N06FI   | 60                   | 0.085                     | 13                 | 35                 | TO-220IS | 2SK2232             | A    | ST     |
| STP20N10     | 100                  | 0.12                      | 20                 | 105                | TO-220AB | 2SK2314             | A    | ST     |
| STP20N10FI   | 100                  | 0.12                      | 12                 | 40                 | TO-220IS | 2SK2391             | A    | ST     |
| STP20N10L    | 100                  | 0.12                      | 20                 | 105                | TO-220AB | 2SK2314             | A    | ST     |
| STP20N10LFI  | 100                  | 0.12                      | 12                 | 40                 | TO-220IS | 2SK2391             | A    | ST     |
| STP20NE06    | 60                   | 0.085                     | 20                 |                    | TO-220AB | 2SK2232             | B    | ST     |
| STP20NE06FP  | 60                   | 0.085                     | 13                 |                    | TO-220FP | 2SK2232             | A    | ST     |
| STP20NE06L   | 60                   | 0.085                     | 20                 |                    | TO-220AB | 2SK2232             | B    | ST     |
| STP20NE06LFP | 60                   | 0.085                     | 13                 |                    | TO-220FP | 2SK2232             | A    | ST     |
| STP20NE10    | 100                  | 0.1                       | 20                 |                    | TO-220AB | 2SK2314             | A    | ST     |
| STP21N05L    | 50                   | 0.085                     | 21                 | 80                 | TO-220AB | 2SK2507             | B    | ST     |
| STP21N05LFI  | 50                   | 0.085                     | 14                 | 35                 | TO-220IS | 2SK2507             | A    | ST     |
| STP21N06L    | 60                   | 0.085                     | 21                 | 80                 | TO-220AB | 2SK2232             | B    | ST     |
| STP21N06LFI  | 60                   | 0.085                     | 14                 | 35                 | TO-220IS | 2SK2232             | A    | ST     |
| STP22NE03L   | 30                   | 0.05                      | 22                 |                    | TO-220AB | 2SK2844             | A    | ST     |
| STP25N05     | 50                   | 0.065                     | 25                 | 90                 | TO-220AB | 2SK2507             | B    | ST     |
| STP25N05FI   | 50                   | 0.065                     | 16                 | 40                 | TO-220IS | 2SK2507             | A    | ST     |
| STP25N06     | 60                   | 0.065                     | 25                 | 90                 | TO-220AB | 2SK2232             | B    | ST     |
| STP25N06FI   | 60                   | 0.065                     | 16                 | 40                 | TO-220IS | 2SK2232             | A    | ST     |
| STP2N60      | 600                  | 3.5                       | 2.9                | 70                 | TO-220AB | 2SK3085             | A    | ST     |
| STP2N60FI    | 600                  | 3.5                       | 2.2                | 35                 | TO-220IS | 2SK3067             | A    | ST     |
| STP2N80      | 800                  | 7                         | 2.4                | 90                 | TO-220AB | 2SK2997             | B    | ST     |
| STP2N80FI    | 800                  | 7                         | 1.5                | 35                 | TO-220IS | 2SK2997             | B    | ST     |
| STP2NA50     | 500                  | 4                         | 2.8                |                    | TO-220AB | 2SK2862             | B    | ST     |
| STP30N05     | 50                   | 0.05                      | 30                 | 105                | TO-220AB | 2SK2507             | B    | ST     |
| STP30N05FI   | 50                   | 0.05                      | 19                 | 40                 | TO-220IS | 2SK2507             | A    | ST     |
| STP30N06     | 60                   | 0.05                      | 30                 | 105                | TO-220AB | 2SK2232             | B    | ST     |
| STP30N06FI   | 60                   | 0.05                      | 19                 | 40                 | TO-220IS | 2SK2232             | A    | ST     |
| STP30N10     | 100                  | 0.06                      | 33                 |                    | TO-220AB | 2SK2466             | B    | ST     |
| STP30NE06    | 60                   | 0.05                      | 30                 |                    | TO-220AB | 2SK2232             | B    | ST     |
| STP30NE06FP  | 60                   | 0.05                      | 17                 |                    | TO-220FP | 2SK2232             | A    | ST     |

**Power MOSFETs Cross Reference**
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| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package    | Toshiba Replacement | Note | Vender |
|---------------|----------------------|---------------------------|--------------------|--------------------|------------|---------------------|------|--------|
| STP30NE06L    | 60                   | 0.055                     | 30                 |                    | TO-220AB   | 2SK2232             | B    | ST     |
| STP30NE06LFP  | 60                   | 0.055                     | 17                 |                    | TO-220FP   | 2SK2232             | A    | ST     |
| STP32N05L     | 50                   | 0.055                     | 32                 | 105                | TO-220AB   | 2SK2507             | B    | ST     |
| STP32N05LFI   | 50                   | 0.055                     | 19                 | 40                 | TO-220IS   | 2SK2507             | A    | ST     |
| STP32N06L     | 60                   | 0.05                      | 32                 | 105                | TO-220AB   | 2SK2232             | B    | ST     |
| STP32N06LFI   | 60                   | 0.05                      | 19                 | 40                 | TO-220IS   | 2SK2232             | A    | ST     |
| STP33N10      | 100                  | 0.06                      | 33                 | 150                | TO-220AB   | 2SK2466             | B    | ST     |
| STP33N10FI    | 100                  | 0.06                      | 18                 | 45                 | TO-220IS   | 2SK2466             | A    | ST     |
| STP36N05L     | 50                   | 0.04                      | 36                 | 120                | TO-220AB   | 2SK2720             | B    | ST     |
| STP36N05LFI   | 50                   | 0.04                      | 21                 | 40                 | TO-220IS   | 2SK2385             | A    | ST     |
| STP36N06      | 60                   | 0.04                      | 36                 | 120                | TO-220AB   | 2SK2385             | B    | ST     |
| STP36N06FI    | 60                   | 0.04                      | 21                 | 40                 | TO-220IS   | 2SK2385             | A    | ST     |
| STP36N06L     | 60                   | 0.04                      | 36                 | 120                | TO-220AB   | 2SK2385             | B    | ST     |
| STP36N06LFI   | 60                   | 0.04                      | 21                 | 40                 | TO-220IS   | 2SK2385             | A    | ST     |
| STP36NE06     | 60                   | 0.04                      | 36                 |                    | TO-220AB   | 2SK2385             | B    | ST     |
| STP36NE06FP   | 60                   | 0.04                      | 20                 |                    | TO-220FP   | 2SK2385             | A    | ST     |
| STP3N100      | 1000                 | 5                         | 3.5                | 100                | TO-220AB   | 2SK1119             | A    | ST     |
| STP3N100FI    | 1000                 | 5                         | 2                  | 40                 | TO-220IS   | 2SK1119             | B    | ST     |
| STP3N100XI    | 1000                 | 6                         | 1.6                | 30                 | ISOWATT221 |                     |      | ST     |
| STP3N50XI     | 500                  | 4                         | 1.7                | 25                 | ISOWATT221 | 2SK2599             | B    | ST     |
| STP3N60FI     | 600                  | 2.2                       | 2.7                | 35                 | TO-220IS   | 2SK2750             | A    | ST     |
| STP3N60XI     | 600                  | 2.5                       | 2.4                | 28                 | ISOWATT221 |                     |      | ST     |
| STP3N80XI     | 800                  | 4.5                       | 1.7                | 28                 | ISOWATT221 |                     |      | ST     |
| STP3N90       | 900                  | 4.5                       | 3.2                | 100                | TO-220AB   | 2SK2608             | A    | ST     |
| STP3N90FI     | 900                  | 4.5                       | 1.9                | 40                 | TO-220IS   | 2SK2700             | A    | ST     |
| STP3NA100     | 1000                 | 5                         | 3.5                |                    | TO-220AB   | 2SK1119             | A    | ST     |
| STP3NA100FP   | 1000                 | 5                         | 2                  |                    | TO-220FP   | 2SK1119             | B    | ST     |
| STP3NA80      | 800                  | 4.5                       | 3                  | 100                | TO-220AB   | 2SK2603             | A    | ST     |
| STP3NA80FI    | 800                  | 4.5                       | 2                  | 40                 | TO-220IS   | 2SK2603             | B    | ST     |
| STP3NA90      | 900                  | 5.3                       | 3                  |                    | TO-220AB   | 2SK2608             | A    | ST     |
| STP3NA90FI    | 900                  | 5.3                       | 1.9                |                    | TO-220FP   | 2SK2700             | A    | ST     |
| STP3NB100     | 1000                 | 5.5                       | 3                  |                    | TO-220AB   | 2SK1119             | A    | ST     |
| STP3NB100FP   | 1000                 | 5.5                       | 1.8                |                    | TO-220FP   | 2SK1119             | B    | ST     |
| STP3NB60      | 600                  | 3.6                       | 3.3                |                    | TO-220AB   | 2SK3085             | A    | ST     |
| STP3NB60FP    | 600                  | 3.6                       | 2.1                |                    | TO-220FP   | 2SK3067             | A    | ST     |
| STP3NB80      | 800                  | 6.5                       | 2.6                |                    | TO-220     | 2SK2603             | A    | ST     |
| STP3NB80FP    | 800                  | 6.5                       | 1.6                |                    | TO-220FP   | 2SK2603             | B    | ST     |
| STP3NB90      | 900                  | 4.4                       | 3.4                |                    | TO-220AB   | 2SK2608             | A    | ST     |
| STP3NB90FP    | 900                  | 4.4                       | 2                  |                    | TO-220FP   | 2SK2700             | A    | ST     |
| STP40N05      | 50                   | 0.035                     | 40                 | 125                | TO-220AB   | 2SK2385             | B    | ST     |
| STP40N05FI    | 50                   | 0.035                     | 23                 | 40                 | TO-220IS   | 2SK2886             | A    | ST     |
| STP40N10      | 100                  | 0.04                      | 40                 | 150                | TO-220AB   | 2SK2466             | B    | ST     |
| STP40N10FI    | 100                  | 0.04                      | 22                 | 45                 | TO-220IS   | 2SK2466             | A    | ST     |
| STP40NE03L-20 | 30                   | 0.02                      | 40                 |                    | TO-220AB   | 2SK2844             | A    | ST     |
| STP45NE06     | 60                   | 0.028                     | 45                 |                    | TO-220AB   | 2SK2385             | B    | ST     |
| STP45NE06FP   | 60                   | 0.028                     | 25                 |                    | TO-220FP   | 2SK2385             | A    | ST     |
| STP45NE06L    | 60                   | 0.028                     | 45                 |                    | TO-220AB   | 2SK2385             | B    | ST     |
| STP45NE06LFP  | 60                   | 0.028                     | 25                 |                    | TO-220FP   | 2SK2385             | A    | ST     |
| STP4N100      | 1000                 | 3.5                       | 4                  | 125                | TO-220AB   | 2SK1119             | A    | ST     |
| STP4N100FI    | 1000                 | 3.5                       | 2.2                | 40                 | TO-220IS   | 2SK1119             | B    | ST     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package    | Toshiba Replacement | Note | Vender |
|-------------|----------------------|---------------------------|--------------------|--------------------|------------|---------------------|------|--------|
| STP4N100XI  | 1000                 | 4                         | 2                  | 35                 | ISOWATT221 |                     |      | ST     |
| STP4N40     | 400                  | 2.1                       | 4                  | 75                 | TO-220AB   | 2SK2679             | B    | ST     |
| STP4N40FI   | 400                  | 2.1                       | 3                  | 35                 | TO-220IS   | 2SK2662             | A    | ST     |
| STP4N80XI   | 800                  | 3.5                       | 2                  | 30                 | ISOWATT221 |                     |      | ST     |
| STP4N90     | 900                  | 3.5                       | 3.6                | 100                | TO-220AB   | 2SK2717             | B    | ST     |
| STP4N90FI   | 900                  | 3.5                       | 2.3                | 40                 | TO-220IS   | 2SK2700             | A    | ST     |
| STP4NA60    | 600                  | 2.2                       | 4.3                | 100                | TO-220AB   | 2SK3085             | A    | ST     |
| STP4NA60FI  | 600                  | 2.2                       | 2.7                | 40                 | TO-220IS   | 2SK2750             | A    | ST     |
| STP4NA80    | 800                  | 3.5                       | 3.8                | 100                | TO-220AB   | 2SK2603             | A    | ST     |
| STP4NA80FI  | 800                  | 3.5                       | 2.4                | 40                 | TO-220IS   | 2SK2603             | B    | ST     |
| STP4NA90    | 900                  | 4                         | 3.6                |                    | TO-220AB   | 2SK2608             | A    | ST     |
| STP4NA90FI  | 900                  | 4                         | 2.4                |                    | TO-220FP   | 2SK2700             | A    | ST     |
| STP4NB100   | 1000                 | 4.4                       | 3.8                |                    | TO-220AB   | 2SK1119             | A    | ST     |
| STP4NB30    | 300                  | 2                         | 4.3                |                    | TO-220     |                     |      | ST     |
| STP4NB30FP  | 300                  | 2                         | 2.7                |                    | TO-220FP   |                     |      | ST     |
| STP4NB50    | 500                  | 2.8                       | 3.8                |                    | TO-220AB   | 2SK2862             | B    | ST     |
| STP4NB50FP  | 500                  | 2.8                       | 2.3                |                    | TO-220FP   | 2SK2862             | A    | ST     |
| STP4NB80    | 800                  | 3.3                       | 4                  |                    | TO-220AB   | 2SK2603             | A    | ST     |
| STP4NB80FP  | 800                  | 3.3                       | 2.3                |                    | TO-220FP   | 2SK2603             | B    | ST     |
| STP4NB90    | 900                  | 2.9                       | 4                  |                    | TO-220AB   | 2SK2717             | B    | ST     |
| STP4NB90FP  | 900                  | 2.9                       | 2.5                |                    | TO-220FP   | 2SK2717             | A    | ST     |
| STP50N05L   | 50                   | 0.028                     | 50                 | 200                | TO-220AB   | 2SK2886             | B    | ST     |
| STP50N05LFI | 50                   | 0.028                     | 24                 | 40                 | TO-220IS   | 2SK2886             | A    | ST     |
| STP50N06    | 60                   | 0.028                     | 50                 | 150                | TO-220AB   | 2SK2385             | B    | ST     |
| STP50N06FI  | 60                   | 0.028                     | 27                 | 45                 | TO-220IS   | 2SK2385             | A    | ST     |
| STP50N06L   | 60                   | 0.028                     | 50                 | 200                | TO-220AB   | 2SK2385             | B    | ST     |
| STP50N06LFI | 60                   | 0.028                     | 24                 | 40                 | TO-220IS   | 2SK2385             | A    | ST     |
| STP50NE08   | 80                   | 0.024                     | 50                 |                    | TO-220     |                     |      | ST     |
| STP50NE10   | 100                  | 0.028                     | 50                 |                    | TO-220     |                     |      | ST     |
| STP50NE10L  | 100                  | 0.025                     | 50                 |                    | TO-220     |                     |      | ST     |
| STP53N05    | 50                   | 0.025                     | 53                 | 150                | TO-220AB   | 2SK2886             | B    | ST     |
| STP53N06    | 60                   | 0.025                     | 53                 | 150                | TO-220AB   | 2SK2312             | B    | ST     |
| STP55N05L   | 50                   | 0.023                     | 55                 | 150                | TO-220AB   | 2SK2886             | B    | ST     |
| STP55N05LFI | 50                   | 0.023                     | 30                 | 45                 | TO-220IS   | 2SK2886             | A    | ST     |
| STP55N06L   | 60                   | 0.023                     | 55                 | 150                | TO-220AB   | 2SK2312             | B    | ST     |
| STP55N06LFI | 60                   | 0.023                     | 30                 | 45                 | TO-220IS   | 2SK2312             | A    | ST     |
| STP55NE06   | 60                   | 0.022                     | 55                 |                    | TO-220AB   | 2SK2312             | B    | ST     |
| STP55NE06FP | 60                   | 0.022                     | 30                 |                    | TO-220FP   | 2SK2312             | A    | ST     |
| STP55NE06L  | 60                   | 0.022                     | 50                 |                    | TO-220AB   | 2SK2312             | B    | ST     |
| STP5N25L    | 250                  | 1.1                       | 5                  | 70                 | TO-220AB   | 2SK2840             | B    | ST     |
| STP5N25LFI  | 250                  | 1.1                       | 3.5                | 35                 | TO-220IS   | 2SK2840             | A    | ST     |
| STP5N30     | 300                  | 1.4                       | 5                  | 75                 | TO-220AB   |                     |      | ST     |
| STP5N30FI   | 300                  | 1.4                       | 3                  | 35                 | TO-220IS   |                     |      | ST     |
| STP5N30L    | 300                  | 1.4                       | 5                  | 75                 | TO-220AB   |                     |      | ST     |
| STP5N30LFI  | 300                  | 1.4                       | 3.5                | 35                 | TO-220IS   |                     |      | ST     |
| STP5N50     | 500                  | 1.6                       | 4.5                | 100                | TO-220AB   | 2SK2661             | A    | ST     |
| STP5N50FI   | 500                  | 1.6                       | 3                  | 35                 | TO-220IS   | 2SK2662             | A    | ST     |
| STP5N60     | 600                  | 1.6                       | 5.6                | 100                | TO-220AB   | 2SK2544             | A    | ST     |
| STP5N60FI   | 600                  | 1.6                       | 3.4                | 40                 | TO-220IS   | 2SK2545             | A    | ST     |
| STP5N80     | 800                  | 2                         | 5.5                | 125                | TO-220AB   | 2SK2605             | B    | ST     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package    | Toshiba Replacement | Note | Vender |
|---------------|----------------------|---------------------------|--------------------|--------------------|------------|---------------------|------|--------|
| STP5N80FI     | 800                  | 2                         | 3.1                | 40                 | TO-220IS   | 2SK2605             | A    | ST     |
| STP5N80XI     | 800                  | 2.4                       | 2.6                | 35                 | ISOWATT221 |                     |      | ST     |
| STP5N90       | 900                  | 2.4                       | 5                  | 125                | TO-220AB   | 2SK2717             | B    | ST     |
| STP5N90FI     | 900                  | 2.4                       | 2.8                | 40                 | TO-220IS   |                     |      | ST     |
| STP5NA50      | 500                  | 1.6                       | 5                  | 100                | TO-220AB   | 2SK2661             | A    | ST     |
| STP5NA50FI    | 500                  | 1.6                       | 3.1                | 35                 | TO-220IS   | 2SK2662             | A    | ST     |
| STP5NA60      | 600                  | 1.6                       | 5.3                | 110                | TO-220AB   | 2SK2544             | A    | ST     |
| STP5NA60FI    | 600                  | 1.6                       | 3.4                | 45                 | TO-220IS   | 2SK2545             | A    | ST     |
| STP5NA80      | 800                  | 2.2                       | 4.7                |                    | TO-220     | 2SK2605             | B    | ST     |
| STP5NA80FI    | 800                  | 2.2                       | 2.8                |                    | TO-220FP   | 2SK2605             | A    | ST     |
| STP5NB40      | 400                  | 1.8                       | 4.7                |                    | TO-220AB   | 2SK2679             | B    | ST     |
| STP5NB40FP    | 400                  | 1.8                       | 2.8                |                    | TO-220FP   | 2SK2679             | A    | ST     |
| STP5NB60      | 600                  | 2                         | 5.3                |                    | TO-220AB   | 2SK3085             | A    | ST     |
| STP5NB60FP    | 600                  | 2                         | 3                  |                    | TO-220FP   | 2SK2750             | A    | ST     |
| STP5NB80      | 800                  | 2.2                       | 5                  |                    | TO-220     | 2SK2605             | B    | ST     |
| STP5NB80FP    | 800                  | 2.2                       | 3                  |                    | TO-220FP   | 2SK2605             | A    | ST     |
| STP5NB90      | 900                  | 2.5                       | 5                  |                    | TO-220AB   | 2SK2717             | B    | ST     |
| STP60N05      | 50                   | 0.02                      | 60                 | 150                | TO-220AB   | 2SK2886             | B    | ST     |
| STP60N05-16   | 50                   | 0.016                     | 60                 | 150                | TO-220AB   | 2SK2312             | B    | ST     |
| STP60N05FI    | 50                   | 0.02                      | 32                 | 45                 | TO-220IS   | 2SK2886             | A    | ST     |
| STP60N06      | 60                   | 0.02                      | 60                 | 150                | TO-220AB   | 2SK2312             | B    | ST     |
| STP60N06-16   | 60                   | 0.016                     | 60                 | 150                | TO-220AB   | 2SK2312             | B    | ST     |
| STP60N06FI    | 60                   | 0.02                      | 32                 | 45                 | TO-220IS   | 2SK2312             | A    | ST     |
| STP60NE03L-10 | 30                   | 0.01                      | 60                 |                    | TO-220AB   | 2SK3127             | B    | ST     |
| STP60NE06-16  | 60                   | 0.016                     | 60                 |                    | TO-220AB   | 2SK2312             | B    | ST     |
| STP60NE06L-16 | 60                   | 0.016                     | 60                 |                    | TO-220AB   | 2SK2312             | B    | ST     |
| STP60NE08     | 80                   | 0.016                     | 60                 |                    | TO-220     |                     |      | ST     |
| STP60NS04Z    | 40                   | 0.015                     | 60                 |                    | TO-220AB   |                     |      | ST     |
| STP6N25       | 250                  | 1.1                       | 6                  | 75                 | TO-220AB   | 2SK2840             | B    | ST     |
| STP6N25FI     | 250                  | 1                         | 4                  | 35                 | TO-220IS   | 2SK2840             | A    | ST     |
| STP6N50       | 500                  | 1.1                       | 6                  | 100                | TO-220AB   | 2SK2542             | A    | ST     |
| STP6N50FI     | 500                  | 1.1                       | 3.8                | 40                 | TO-220IS   | 2SK2543             | A    | ST     |
| STP6N60FI     | 600                  | 1.2                       | 3.8                | 40                 | TO-220IS   | 2SK2545             | A    | ST     |
| STP6NA50      | 500                  | 1.1                       | 6                  | 110                | TO-220AB   | 2SK2542             | A    | ST     |
| STP6NA50FI    | 500                  | 1.1                       | 4                  | 45                 | TO-220IS   | 2SK2543             | A    | ST     |
| STP6NA60      | 600                  | 1.2                       | 6.5                | 125                | TO-220AB   | 2SK2544             | A    | ST     |
| STP6NA60FI    | 600                  | 1.2                       | 3.9                | 45                 | TO-220IS   | 2SK2545             | A    | ST     |
| STP6NA80FI    | 800                  | 1.9                       | 3.4                | 45                 | TO-220IS   |                     |      | ST     |
| STP6NB25      | 250                  | 1.1                       | 6                  |                    | TO-220AB   | 2SK2840             | B    | ST     |
| STP6NB25FP    | 250                  | 1.1                       | 3.7                |                    | TO-220FP   | 2SK2840             | A    | ST     |
| STP6NB50      | 500                  | 1.5                       | 5.8                |                    | TO-220AB   | 2SK2661             | A    | ST     |
| STP6NB50FP    | 500                  | 1.5                       | 3.4                |                    | TO-220FP   | 2SK2662             | A    | ST     |
| STP6NB80      | 800                  | 1.9                       | 5.7                |                    | TO-220AB   |                     |      | ST     |
| STP6NB90      | 900                  | 1.9                       | 6                  |                    | TO-220     |                     |      | ST     |
| STP6NS80      | 800                  | 1.9                       | 5.7                | 125                | TO-220AB   |                     |      | ST     |
| STP7N20       | 200                  | 0.65                      | 7                  | 75                 | TO-220AB   | YTA630              | A    | ST     |
| STP7N20FI     | 200                  | 0.65                      | 4.5                | 30                 | TO-220IS   | 2SK2350             | A    | ST     |
| STP7NA40      | 400                  | 1                         | 6.5                | 100                | TO-220AB   | 2SK2679             | B    | ST     |
| STP7NA40FI    | 400                  | 1                         | 4.1                | 40                 | TO-220IS   | 2SK2679             | A    | ST     |
| STP7NA60      | 600                  | 1                         | 7.2                | 125                | TO-220AB   | 2SK2544             | A    | ST     |



**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number   | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package    | Toshiba Replacement | Note | Vender |
|---------------|----------------------|---------------------------|--------------------|--------------------|------------|---------------------|------|--------|
| STP7NA60FI    | 600                  | 1                         | 4.3                | 45                 | TO-220IS   | 2SK2545             | A    | ST     |
| STP7NB30      | 300                  | 0.9                       | 7                  |                    | TO-220     |                     |      | ST     |
| STP7NB30FP    | 300                  | 0.9                       | 4                  |                    | TO-220FP   |                     |      | ST     |
| STP7NB40      | 400                  | 0.9                       | 7                  |                    | TO-220AB   | 2SK2841             | A    | ST     |
| STP7NB40FP    | 400                  | 0.9                       | 4.4                |                    | TO-220FP   | 2SK2952             | A    | ST     |
| STP7NB60      | 600                  | 1.2                       | 7.2                |                    | TO-220AB   | 2SK2544             | A    | ST     |
| STP7NB60FP    | 600                  | 1.2                       | 4.1                |                    | TO-220FP   | 2SK2545             | A    | ST     |
| STP7NB80      | 800                  | 1.6                       | 6.5                |                    | TO-220     |                     |      | ST     |
| STP80NE03L-06 | 30                   | 0.006                     | 80                 |                    | TO-220AB   |                     |      | ST     |
| STP80NE06-10  | 60                   | 0.01                      | 80                 |                    | TO-220AB   | 2SK2985             | B    | ST     |
| STP80NS04Z    | 40                   | 0.008                     | 80                 |                    | TO-220AB   |                     |      | ST     |
| STP8N50XI     | 500                  | 0.85                      | 4.5                | 35                 | ISOWATT221 |                     |      | ST     |
| STP8NA50      | 500                  | 0.85                      | 8                  | 125                | TO-220AB   | 2SK2542             | A    | ST     |
| STP8NA50FI    | 500                  | 0.85                      | 4.5                | 40                 | TO-220IS   | 2SK2543             | A    | ST     |
| STP9N30       | 300                  | 0.55                      | 9                  | 100                | TO-220AB   |                     |      | ST     |
| STP9NA50      | 500                  | 0.8                       | 8.8                | 125                | TO-220AB   | 2SK2542             | A    | ST     |
| STP9NA50FI    | 500                  | 0.8                       | 5                  | 45                 | TO-220IS   | 2SK2543             | A    | ST     |
| STP9NB50      | 500                  | 0.85                      | 8.6                |                    | TO-220AB   | 2SK2542             | A    | ST     |
| STP9NB50FP    | 500                  | 0.85                      | 4.5                |                    | TO-220FP   | 2SK2543             | A    | ST     |
| STP9NB60      | 600                  | 0.75                      | 9                  |                    | TO-220     | 2SK2866             | A    | ST     |
| STP9NB60FP    | 600                  | 0.75                      | 5.2                |                    | TO-220FP   | 2SK2843             | A    | ST     |
| STU10NB80     | 800                  | 0.85                      | 9.7                |                    | MAX220     |                     |      | ST     |
| STU11NB60     | 600                  | 0.65                      | 10.7               |                    | MAX220     | 2SK2843             | B    | ST     |
| STU13NB50     | 500                  | 0.45                      | 13                 |                    | MAX220     | 2SK2842             | B    | ST     |
| STU13NB60     | 600                  | 0.45                      | 12.6               |                    | MAX220     |                     |      | ST     |
| STU13NB60I    | 600                  | 0.45                      | 8                  |                    | MAX220     |                     |      | ST     |
| STU16NB50     | 500                  | 0.33                      | 15.6               |                    | MAX220     |                     |      | ST     |
| STU16NB50I    | 500                  | 0.33                      | 10                 |                    | MAX220     |                     |      | ST     |
| STU6NA100     | 1000                 | 1.7                       | 6                  |                    | MAX220     |                     |      | ST     |
| STU6NA90      | 900                  | 2                         | 5.8                |                    | MAX220     |                     |      | ST     |
| STU7NA80      | 800                  | 1.5                       | 6.5                |                    | MAX220     |                     |      | ST     |
| STU7NA90      | 900                  | 1.3                       | 7.3                |                    | MAX220     |                     |      | ST     |
| STU7NB90      | 900                  | 1.45                      | 7.4                |                    | MAX220     |                     |      | ST     |
| STU8NA80      | 800                  | 1                         | 8.3                |                    | MAX220     |                     |      | ST     |
| STU8NB90      | 900                  | 1                         |                    |                    | MAX220     |                     |      | ST     |
| STU9NB80      | 800                  | 1.1                       | 8.5                |                    | MAX220     |                     |      | ST     |
| STV10NA40     | 400                  | 0.55                      | 10                 | 125                | SO-10      |                     |      | ST     |
| STV12N20      | 200                  | 0.3                       | 12                 | 100                | SO-10      |                     |      | ST     |
| STV18N20      | 200                  | 0.18                      | 18                 | 125                | SO-10      |                     |      | ST     |
| STV33N10      | 100                  | 0.06                      | 33                 | 150                | SO-10      |                     |      | ST     |
| STV36N06      | 60                   | 0.04                      | 36                 | 120                | SO-10      |                     |      | ST     |
| STV3NA80      | 800                  | 4.5                       | 3.2                | 100                | SO-10      |                     |      | ST     |
| STV40N05      | 50                   | 0.035                     | 40                 | 125                | SO-10      |                     |      | ST     |
| STV40N10      | 100                  | 0.04                      | 40                 | 150                | SO-10      |                     |      | ST     |
| STV4N100      | 1000                 | 3.5                       | 4                  | 125                | SO-10      |                     |      | ST     |
| STV4NA60      | 600                  | 2.2                       | 4.4                | 100                | SO-10      |                     |      | ST     |
| STV4NA80      | 800                  | 3                         | 3.8                | 110                | SO-10      |                     |      | ST     |
| STV50N05      | 50                   | 0.028                     | 50                 | 150                | SO-10      |                     |      | ST     |
| STV50N06      | 60                   | 0.028                     | 50                 | 150                | SO-10      |                     |      | ST     |
| STV55N05L     | 50                   | 0.023                     | 55                 | 150                | SO-10      |                     |      | ST     |

# Power MOSFETs Cross Reference

# Alphanumerically

| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package | Toshiba Replacement | Note | Vender |
|--------------|----------------------|---------------------------|--------------------|--------------------|---------|---------------------|------|--------|
| STV55N06L    | 60                   | 0.023                     | 5.5                | 150                | SO-10   |                     |      | ST     |
| STV5NA50     | 500                  | 1.6                       | 4.5                | 100                | SO-10   |                     |      | ST     |
| STV5NA80     | 800                  | 2.4                       | 4.7                | 125                | SO-10   |                     |      | ST     |
| STV60N03L-12 | 30                   | 0.012                     | 60                 | 150                | SO-10   |                     |      | ST     |
| STV60N05     | 50                   | 0.02                      | 60                 | 150                | SO-10   |                     |      | ST     |
| STV60N05-16  | 50                   | 0.016                     | 60                 | 150                | SO-10   |                     |      | ST     |
| STV60N06     | 60                   | 0.02                      | 60                 | 150                | SO-10   |                     |      | ST     |
| STV6NA60     | 600                  | 1.2                       | 6.5                | 110                | SO-10   |                     |      | ST     |
| STV7NA40     | 400                  | 1                         | 6.5                | 100                | SO-10   |                     |      | ST     |
| STV7NA60     | 600                  | 1                         | 6.5                | 125                | SO-10   |                     |      | ST     |
| STV8NA50     | 500                  | 0.85                      | 8                  | 125                | SO-10   |                     |      | ST     |
| STW10NB60    | 600                  | 0.55                      | 10                 |                    | TO-247  | 2SK2915             | A    | ST     |
| STW11NB80    | 800                  | 0.85                      | 10.6               |                    | TO-247  |                     |      | ST     |
| STW12N60     | 600                  | 0.6                       | 12                 | 180                | TO-247  | 2SK2699             | A    | ST     |
| STW12NB60    | 600                  | 0.65                      | 12                 |                    | TO-247  | 2SK2699             | A    | ST     |
| STW13NB60    | 600                  | 0.55                      | 12.5               |                    | TO-247  | 2SK2915             | A    | ST     |
| STW14N50     | 500                  | 0.45                      | 14.1               | 180                | TO-247  | 2SK2698             | A    | ST     |
| STW14NB50    | 500                  | 0.45                      | 14                 |                    | TO-247  | 2SK2698             | A    | ST     |
| STW15N50     | 500                  | 0.4                       | 15                 | 180                | TO-247  | 2SK2698             | A    | ST     |
| STW15NB50    | 500                  | 0.36                      | 14.6               |                    | TO-247  | 2SK2698             | A    | ST     |
| STW16N40     | 400                  | 0.3                       | 16                 | 180                | TO-247  | 2SK2837             | A    | ST     |
| STW16NA60    | 600                  | 0.4                       | 16                 |                    | TO-247  | 2SK2915             | A    | ST     |
| STW18NB40    | 400                  | 0.3                       | 18                 |                    | TO-247  | 2SK2837             | A    | ST     |
| STW20NA50    | 500                  | 0.27                      | 20                 | 250                | TO-247  | 2SK2837             | A    | ST     |
| STW20NB50    | 500                  | 0.27                      | 20                 |                    | TO-247  | 2SK2837             | A    | ST     |
| STW33N20     | 200                  | 0.085                     | 33                 | 180                | TO-247  | 2SK3176             | A    | ST     |
| STW34NB20    | 200                  | 0.075                     | 34                 |                    | TO-247  | 2SK3176             | A    | ST     |
| STW50NB20    | 200                  | 0.05                      | 50                 |                    | TO-247  | 2SK3176             | A    | ST     |
| STW55N10     | 100                  | 0.03                      | 55                 | 200                | TO-247  | 2SK1381             | A    | ST     |
| STW5NB100    | 1000                 | 4.4                       | 4.3                |                    | TO-247  | 2SK1359             | A    | ST     |
| STW5NB90     | 900                  | 2.5                       | 5                  |                    | TO-247  | 2SK2610             | A    | ST     |
| STW60N10     | 100                  | 0.025                     | 60                 | 200                | TO-247  |                     |      | ST     |
| STW6NA80     | 800                  | 2.2                       | 5.4                |                    | TO-247  | 2SK2604             | A    | ST     |
| STW6NA90     | 900                  | 2                         | 6                  |                    | TO-247  | 2SK2749             | A    | ST     |
| STW6NB90     | 900                  | 1.9                       | 6.5                |                    | TO-247  | 2SK2749             | A    | ST     |
| STW75N06     | 60                   | 0.014                     | 75                 | 200                | TO-247  | 2SK2313             | A    | ST     |
| STW7NA100    | 1000                 | 1.7                       | 7                  |                    | TO-247  | 2SK2613             | A    | ST     |
| STW7NA80     | 800                  | 1.9                       | 6.5                |                    | TO-247  | 2SK2746             | A    | ST     |
| STW7NA90     | 900                  | 1.3                       | 7.7                |                    | TO-247  | 2SK2611             | A    | ST     |
| STW7NB80     | 800                  | 1.9                       | 6.5                |                    | TO-247  | 2SK2746             | A    | ST     |
| STW80N05     | 50                   | 0.012                     | 80                 | 200                | TO-247  | 2SK2551             | A    | ST     |
| STW80NE06-10 | 60                   | 0.01                      | 80                 |                    | TO-247  | 2SK2313             | A    | ST     |
| STW8N80      | 800                  | 1.2                       | 8.2                | 180                | TO-247  | 2SK2607             | A    | ST     |
| STW8NA80     | 800                  | 1.5                       | 7.2                |                    | TO-247  | 2SK2746             | A    | ST     |
| STW8NB80     | 800                  | 1.6                       | 7.2                |                    | TO-247  | 2SK2746             | A    | ST     |
| STW8NB90     | 900                  | 1.45                      | 8                  |                    | TO-247  | 2SK2611             | A    | ST     |
| STW9NA80     | 800                  | 1                         | 9.1                |                    | TO-247  | 2SK2607             | A    | ST     |
| STW9NB80     | 800                  | 1.1                       | 9.3                |                    | TO-247  | 2SK2607             | A    | ST     |
| STW9NB90     | 900                  | 1                         | 9.7                |                    | TO-247  | 2SK2968             | A    | ST     |
| STY15NA100   | 1000                 | 0.77                      | 15                 |                    | MAX247  |                     |      | ST     |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number  | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package         | Toshiba Replacement | Note | Vender    |
|--------------|----------------------|---------------------------|--------------------|--------------------|-----------------|---------------------|------|-----------|
| STY16NA90    | 900                  | 0.54                      | 16                 |                    | MAX247          |                     |      | ST        |
| STY25NA60    | 600                  | 0.24                      | 25                 |                    | MAX247          |                     |      | ST        |
| STY34NB50    | 500                  | 0.13                      | 34                 |                    | MAX247          |                     |      | ST        |
| STY60NA20    | 200                  | 0.032                     | 60                 |                    | MAX247          |                     |      | ST        |
| SUB40N06-25L | 60                   | 0.022                     | 40                 | 90                 | D2-PAK          | 2SK2376             | A    | Siliconix |
| SUB60N06-18  | 60                   | 0.018                     | 60                 | 120                | D2-PAK          | 2SK2376             | A    | Siliconix |
| SUB65P06-20  | -60                  | 0.02                      | 65                 | 187                | D2-PAK          |                     |      | Siliconix |
| SUB70N06-14  | 60                   | 0.014                     | 70                 | 100                | D2-PAK          | 2SK2376             | A    | Siliconix |
| SUB75N05-06  | 50                   | 0.006                     | 75                 | 187                | D2-PAK          | 2SK2986             | A    | Siliconix |
| SUB75N06-08  | 60                   | 0.008                     | 75                 | 187                | D2-PAK          | 2SK2986             | A    | Siliconix |
| SUD25N06-45L | 60                   | 0.045                     | 25                 | 50                 | D-PAK           |                     |      | Siliconix |
| SUD30N03-30  | 30                   | 0.045                     | 30                 | 50                 | D-PAK           |                     |      | Siliconix |
| SUD40N06-25L | 60                   | 0.022                     | 34                 | 75                 | D-PAK           |                     |      | Siliconix |
| SUD45N05-20L | 50                   | 0.018                     | 43                 | 83                 | D-PAK           |                     |      | Siliconix |
| SUD45P03-15  | -30                  | 0.015                     | 45                 | 50                 | D-PAK           |                     |      | Siliconix |
| SUD50N03-10  | 30                   | 0.01                      | 15                 | 83                 | D-PAK           |                     |      | Siliconix |
| SUP40N06-25L | 60                   | 0.025                     | 40                 | 90                 | TO-220AB        | 2SK2312             | B    | Siliconix |
| SUP60N06-18  | 60                   | 0.018                     | 60                 | 120                | TO-220AB        | 2SK2312             | B    | Siliconix |
| SUP65P06-20  | -60                  | 0.02                      | 65                 | 187                | TO-220AB        |                     |      | Siliconix |
| SUP70N06-14  | 60                   | 0.014                     | 70                 | 142                | TO-220AB        | 2SK2312             | B    | Siliconix |
| SUP75N05-06  | 50                   | 0.006                     | 75                 | 187                | TO-220AB        | 2SK2985             | B    | Siliconix |
| SUP75N06-08  | 60                   | 0.008                     | 75                 | 187                | TO-220AB        | 2SK2985             | B    | Siliconix |
| TPC8001      | 30                   | 0.02                      | 8                  |                    | SOP-8(Single)   | TPC8001             | A    | Toshiba   |
| TPC8001      | 30                   | 0.02                      | 8                  |                    | SOP-8(Single)   | TPC8001             | A    | Toshiba   |
| TPC8002      | 30                   | 0.014                     | 11                 |                    | SOP-8(Single)   | TPC8002             | A    | Toshiba   |
| TPC8003      | 30                   | 0.007                     | 13                 |                    | SOP-8(Single)   | TPC8003             | A    | Toshiba   |
| TPC8004      | 30                   | 0.05                      | 5                  |                    | SOP-8(Single)   | TPC8004             | A    | Toshiba   |
| TPC8005-H    | 30                   | 0.016                     | 11                 |                    | SOP-8(Single)   | TPC8005-H           | A    | Toshiba   |
| TPC8006-H    | 30                   | 0.027                     | 7                  |                    | SOP-8(Single)   | TPC8006-H           | A    | Toshiba   |
| TPC8007-H    | 30                   | 0.01                      | 13                 |                    | SOP-8(Single)   | TPC8007-H           | A    | Toshiba   |
| TPC8008      | 20                   | 0.02                      | 6                  |                    | SOP-8(Single)   | TPC8008             | A    | Toshiba   |
| TPC8102      | -30                  | 0.04                      | -6                 |                    | SOP-8(Single)   | TPC8102             | A    | Toshiba   |
| TPC8103      | -30                  | 0.013                     | -11                |                    | SOP-8(Single)   | TPC8103             | A    | Toshiba   |
| TPC8104-H    | -30                  | 0.07                      | -5                 |                    | SOP-8(Single)   | TPC8104-H           | A    | Toshiba   |
| TPC8105-H    | -30                  | 0.04                      | -7                 |                    | SOP-8(Single)   | TPC8105-H           | A    | Toshiba   |
| TPC8106-H    | -30                  | 0.02                      | -8                 |                    | SOP-8(Single)   | TPC8106-H           | A    | Toshiba   |
| TPC8201      | 30                   | 0.05                      | 5                  |                    | SOP-8(Dual)     | TPC8201             | A    | Toshiba   |
| TPC8202      | 20                   | 0.05                      | 5                  |                    | SOP-8(Dual)     | TPC8202             | A    | Toshiba   |
| TPC8203      | 30                   | 0.021                     | 6                  |                    | SOP-8(Dual)     | TPC8203             | A    | Toshiba   |
| TPC8204      | 20                   | 0.02                      | 6                  |                    | SOP-8(Dual)     | TPC8204             | A    | Toshiba   |
| TPC8205      | 50                   | 0.15                      | 5                  |                    | SOP-8(Dual)     | TPC8205             | A    | Toshiba   |
| TPC8301      | -30                  | 0.1                       | -3.5               |                    | SOP-8(Dual)     | TPC8301             | A    | Toshiba   |
| TPC8302      | -20                  | 0.12                      | -3.5               |                    | SOP-8(Dual)     | TPC8302             | A    | Toshiba   |
| TPC8303      | -30                  | 0.035                     | -4.5               |                    | SOP-8(Dual)     | TPC8303             | A    | Toshiba   |
| TPC8304      | -50                  | 0.19                      | -5                 |                    | SOP-8(Dual)     | TPC8304             | A    | Toshiba   |
| TPC8401      | 30/-30               | 0.021/0.039               | 4.5/-4.5           |                    | SOP-8(P&N)      | TPC8401             | A    | Toshiba   |
| TPCS8001-H   | 30                   | 0.027                     | 5                  |                    | TSSOP-8(Single) | TPCS8001-H          | A    | Toshiba   |
| TPCS8002     | 20                   | 0.02                      | 6                  |                    | TSSOP-8(Single) | TPCS8002            | A    | Toshiba   |
| TPCS8003     | 30                   | 0.013                     | 8                  |                    | TSSOP-8(Single) | TPCS8003            | A    | Toshiba   |
| TPCS8101     | -30                  | 0.025                     | -6                 |                    | TSSOP-8(Single) | TPCS8101            | A    | Toshiba   |

**Power MOSFETs Cross Reference**
**Alphanumerically**

| Part Number | V <sub>DSS</sub> (V) | R <sub>DS(ON)</sub> (ohm) | I <sub>D</sub> (A) | P <sub>D</sub> (W) | Package         | Toshiba Replacement | Note | Vender  |
|-------------|----------------------|---------------------------|--------------------|--------------------|-----------------|---------------------|------|---------|
| TPCS8201    | 20                   | 0.03                      | 5                  |                    | TSSOP-8(Dual)   | TPCS8201            | A    | Toshiba |
| TPCS8202    | 30                   | 0.03                      | 4                  |                    | TSSOP-8(Dual)   | TPCS8202            | A    | Toshiba |
| TPCS8301    | -30                  | 0.071                     | -3                 |                    | TSSOP-8(Dual)   | TPCS8301            | A    | Toshiba |
| TPCT8203    | 30                   | 0.021                     | 6                  |                    | TSOP-8(Dual)    | TPCT8203            | A    | Toshiba |
| uPA1700     | 30                   | 0.027                     | 7                  |                    | SOP-8(Single)   | TPC8001             | A    | NEC     |
| uPA1700A*   | 30                   | 0.027                     | 7                  |                    | SOP-8(Single)   | TPC8006-H           | A    | NEC     |
| uPA1701     | 20                   | 0.027                     | 7                  |                    | SOP-8(Single)   | TPC8001             | A    | NEC     |
| uPA1701A*   | 30                   | 0.027                     | 7                  |                    | SOP-8(Single)   | TPC8006-H           | A    | NEC     |
| uPA1702     | 30                   | 0.015                     | 8                  |                    | SOP-8(Single)   | TPC8002             | A    | NEC     |
| uPA1702A    | 30                   | 0.015                     | 8                  |                    | SOP-8(Single)   | TPC8005-H           | A    | NEC     |
| uPA1703     | 30                   | 0.0105                    | 10                 |                    | SOP-8(Single)   | TPC8007-H           | A    | NEC     |
| uPA1704*    | 30                   | 0.014                     | 10                 |                    | SOP-8(Single)   | TPC8005-H           | A    | NEC     |
| uPA1705*    | 30                   | 0.05                      | 7                  |                    | SOP-8(Single)   | TPC8004             | A    | NEC     |
| uPA1710     | -30                  | 0.07                      | 5                  |                    | SOP-8(Single)   | TPC8102             | A    | NEC     |
| uPA1710A    | -30                  | 0.07                      | 5                  |                    | SOP-8(Single)   | TPC8102             | A    | NEC     |
| uPA1711     | -30                  | 0.04                      | 7                  |                    | SOP-8(Single)   | TPC8102             | A    | NEC     |
| uPA1712     | -30                  | 0.02                      | -8                 |                    | SOP-8(Single)   | TPC8106-H           | A    | NEC     |
| uPA1713*    | -30                  | 0.07                      | -5                 |                    | SOP-8(Single)   | TPC8104-H           | A    | NEC     |
| uPA1714*    | -30                  | 0.04                      | -7                 |                    | SOP-8(Single)   | TPC8105-H           | A    | NEC     |
| uPA1750     | -20                  | 0.09                      | 3.5                |                    | SOP-8(Dual)     | TPC8302             | A    | NEC     |
| uPA1751     | 30                   | 0.037                     | 5                  |                    | SOP-8(Dual)     | TPC8203             | A    | NEC     |
| uPA1752     | 20                   | 0.046                     | 5                  |                    | SOP-8(Dual)     | TPC8202             | A    | NEC     |
| uPA1752A    | 20                   | 0.046                     | 5                  |                    | SOP-8(Dual)     | TPC8202             | A    | NEC     |
| uPA1753     | 20                   | 0.035                     | 8                  |                    | SOP-8(Dual)     | TPC8203             | A    | NEC     |
| uPA1754*    | 30                   | 0.032                     | 7                  |                    | SOP-8(Dual)     | TPC8203             | A    | NEC     |
| uPA1755*    | 30                   | 0.032                     | 7                  |                    | SOP-8(Dual)     | TPC8203             | A    | NEC     |
| uPA1756*    | 20                   | 0.03                      | 6                  |                    | SOP-8(Dual)     | TPC8204             | A    | NEC     |
| uPA1757*    | 20                   | 0.023                     | 7                  |                    | SOP-8(Dual)     | TPC8204             | A    | NEC     |
| uPA1758*    | 30                   | 0.03                      | 6                  |                    | SOP-8(Dual)     | TPC8203             | A    | NEC     |
| uPA1800     | 30                   |                           | 5                  |                    | TSSOP-8(Single) |                     |      | NEC     |
| uPA1801     | 20                   |                           | 6                  |                    | TSSOP-8(Single) | TPCS8002            | A    | NEC     |
| uPA1802*    | 20                   |                           | 7                  |                    | TSSOP-8(Single) | TPCS8002            | A    | NEC     |
| uPA1810     | -12                  |                           | -4                 |                    | TSSOP-8(Single) |                     |      | NEC     |
| uPA1811     | -20                  |                           | -4                 |                    | TSSOP-8(Single) |                     |      | NEC     |
| uPA1812     | -30                  |                           | -5                 |                    | TSSOP-8(Single) |                     |      | NEC     |
| uPA1850     | -12                  |                           | -2.5               |                    | TSSOP-8(Dual)   |                     |      | NEC     |
| uPA1851     | -20                  |                           | -2.5               |                    | TSSOP-8(Dual)   |                     |      | NEC     |
| uPA1852     | 20                   |                           | -                  |                    | TSSOP-8(Dual)   | TPCS8201            | A    | NEC     |
| uPA1853     | -30                  |                           | -2.5               |                    | TSSOP-8(Dual)   | TPCS8301            | A    | NEC     |
| YTA630      | 200                  | 0.4                       | 10                 |                    | TO-220AB        | YTA630              | A    | Toshiba |
| YTA640      | 200                  | 0.18                      | 15                 |                    | TO-220AB        | YTA640              | A    | Toshiba |
| YTA830      | 500                  | 1.5                       | 5                  |                    | TO-220AB        | YTA830              | A    | Toshiba |
| YTA840      | 500                  | 0.85                      | 8                  |                    | TO-220AB        | YTA840              | A    | Toshiba |
| YTAF620     | 200                  | 0.8                       | 5                  |                    | TO-220IS        | YTAF620             | A    | Toshiba |
| YTAF630     | 200                  | 0.4                       | 10                 |                    | TO-220IS        | 2SK2350             | A    | Toshiba |
| YTAF640     | 200                  | 0.18                      | 15                 |                    | TO-220IS        | YTAF640             | A    | Toshiba |