# 11. SILICON NPN - HIGH POWER TRANSISTORS

IN ORDER OF (1) MIN. DERATING FACTOR & (2) TYPE No.

| LINE No. | [2] TYPE No. | [1] MIN. DERATE J to C (W/°C) | MAX Pc FREE AIR @ 25°C (W) | M T A E X M P | ABSOLUTE MAX. RATINGS @25°C Ic (A) | Ib (A) | BVcbo (V) | BVebo (V) | BVceo (V) | MAX. Icbo @ MAX Vcb @25°C (A) | hFE BIAS Vcb (V) | hFE BIAS Ic (A) | hFE MIN | hFE MAX | fae (Hz) | MAX. SAT. RES. (Ω) | tr (s) | STRUCTURE | DWG #Y200 s/a TO200 Ser. | L C E O A D D E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1# | BD241B#† | | 2.0 | *$ | 5.0 | 1.0 | | | 80 | 200n§ | 10Ø | 500m | 20 | | 3.0M§△ | | | E | y220b | |
| 2# | BD241C#† | | 2.0 | *$ | 5.0 | 1.0 | | | 100 | 200n§ | 10Ø | 500m | 20 | | 3.0M§△ | | | E | y220b | |
| 3# | BD243☑ | | 65 | $J | 6.0 | 2.0 | 45 | 5.0 | 45 ♦ | .70m△ | 4.0Ø | .30 | 30 | | | | | E | Y220 | D |
| 4# | BD243A☑ | | 65 | $J | 6.0 | 2.0 | 60 | 5.0 | 60 ♦ | .70m△ | 4.0Ø | .30 | 30 | | | | | E | Y220 | D |
| 5# | BD243A#† | | 2.0 | *$ | 6.5 | 1.0 | | | 60 | 400m§ | 10Ø | 500m | 20 | | 3.0M§△ | | | E | T0220 | |
| 6# | BD243B☑ | | 65 | $J | 6.0 | 2.0 | 80 | 5.0 | 80 ♦ | .70m△ | 4.0Ø | .30 | 30 | | | | | E | Y220 | D |
| 7# | BD243B#† | | 2.0 | *$ | 6.5 | 1.0 | | | 80 | 400m§ | 10Ø | 500m | 20 | | 3.0M§△ | | | E | T0220 | |
| 8# | BD243C☑ | | 65 | $J | 6.0 | 2.0 | 100 | 5.0 | 100 ♦ | .70m△ | 4.0Ø | .30 | 30 | | | | | E | Y220 | D |
| 9# | BD371A-6 | | 1.2 | | 1.5 # | | 45 | 5.0 | 45 | | 1.0Ø | 100m | 40 | 100 | 50M△§ | | | | T092 | |
| 10# | BD371A-10 | | 1.2 | | 1.5 # | | 45 | 5.0 | 45 | | 1.0Ø | 100m | 63 | 160 | 50M△§ | | | | T092 | |
| 11# | BD371A-16 | | 1.2 | | 1.5 # | | 45 | 5.0 | 45 | | 1.0Ø | 100m | 100 | 250 | 50M△§ | | | | T092 | |
| 12# | BD371B-6 | | 1.2 | | 1.5 # | | 60 | 5.0 | 60 | | 1.0Ø | 100m | 40 | 100 | 50M△§ | | | | T092 | |
| 13# | BD371B-10 | | 1.2 | | 1.5 # | | 60 | 5.0 | 60 | | 1.0Ø | 100m | 63 | 160 | 50M△§ | | | | T092 | |
| 14# | BD371B-16 | | 1.2 | | 1.5 # | | 60 | 5.0 | 60 | | 1.0Ø | 100m | 100 | 250 | 50M△§ | | | | T092 | |
| 15# | BD371C-6 | | 1.2 | | 1.5 # | | 80 | 5.0 | 80 | | 1.0Ø | 100m | 40 | 100 | 50M△§ | | | | T092 | |
| 16# | BD371C-10 | | 1.2 | | 1.5 # | | 80 | 5.0 | 80 | | 1.0Ø | 100m | 63 | 160 | 50M△§ | | | | T092 | |
| 17# | BD373A-6 | | 1.2 | | 1.5 | | 45 | 5.0 | 45 | | 1.0Ø | 100m | 40 | 100 | 50M△§ | | | | T092 | |
| 18# | BD373A-10 | | 1.2 | | 1.5 | | 45 | 5.0 | 45 | | 1.0Ø | 100m | 63 | 160 | 50M△§ | | | | T092 | |
| 19# | BD373A-16 | | 1.2 | | 1.5 | | 45 | 5.0 | 45 | | 1.0Ø | 100m | 100 | 250 | 50M△§ | | | | T092 | |
| 20# | BD373B-6 | | 1.2 | | 1.5 | | 60 | 5.0 | 60 | | 1.0Ø | 100m | 40 | 100 | 50M△§ | | | | T092 | |
| 21# | BD373B-10 | | 1.2 | | 1.5 | | 60 | 5.0 | 60 | | 1.0Ø | 100m | 63 | 100 | 50M△§ | | | | T092 | |
| 22# | BD373B-16 | | 1.2 | | 1.5 | | 60 | 5.0 | 60 | | 1.0Ø | 100m | 100 | 250 | 50M△§ | | | | T092 | |
| 23# | BD373C-6 | | 1.2 | | 1.5 | | 80 | 5.0 | 80 | | 1.0Ø | 100m | 40 | 100 | 50M△§ | | | | T092 | |
| 24# | BD373C-10 | | 1.2 | | 1.5 | | 80 | 5.0 | 80 | | 1.0Ø | 100m | 63 | 160 | 50M△§ | | | | T092 | |
| 25# | BD415 | | 2.0 | | 1.0 | | | | 60 ♦ | | 1.0Ø | 50m | 80 | 300 | 75M§△ | | | | Y220b | B |
| 26# | BD417 | | 2.0 | | 1.0 | | | | 80 ♦ | | 1.0Ø | 50m | 80 | 300 | 75M§△ | | | | Y220b | B |
| 27# | BD424 | | 2.5 | $J | 800m | | | 5.0 | 100 ♦ | 100n | 1.0Ø | 100m | 40 | | 100M§△ | | | PE | Y202c | B |
| 28# | BD429 | | 10 | $J | 3.0 | | | 5.0 | 20 ♦ | 10u | 1.0Ø | 500m | 85 | 375 | 130M§ | | | PE | Y202c | B |
| 29# | BD533 | | 50 Ø | $J | 4.0 | 1.0 | 45 | 5.0 | 45 | | 2.0 | 2.0 | 25 | | 3.0M§△ | | | E | Y220a | |
| 30# | BD533☑ | | 50 | | 4.0 | | | | 45 ♦ | | 2.0Ø | 2.0 | 25 | | 3.0m§△ | | | | Y220b | BB |
| 31 | BD533J | | 50 | | | | | | 45 | | 2.0Ø | 2.0 | 30 | 75 | 8.0M§ | | | E | Y220 | |
| 32 | BD533K | | 50 | | | | | | 45 | | 2.0Ø | 2.0 | 40 | 100 | 8.0M§ | | | E | Y220 | |
| 33 | BD533L | | 50 | | | | | | 45 | | 2.0Ø | 2.0 | 60 | 150 | 8.0M§ | | | E | Y220 | |
| 34# | BD535 | | 50 Ø | $J | 4.0 | 1.0 | 60 | 5.0 | 60 | | 2.0 | 2.0 | 25 | | 3.0M§△ | | | E | Y220a | |
| 35# | BD535☑ | | 50 | | 4.0 | | | | 60 ♦ | | 2.0Ø | 2.0 | 25 | | 3.0m§△ | | | | Y220b | B |
| 36 | BD535J | | 50 | | | | | | 60 | | 2.0Ø | 2.0 | 30 | 75 | 4.0M§ | | | E | Y220 | |
| 37 | BD535K | | 50 | | | | | | 60 | | 2.0Ø | 2.0 | 40 | 100 | 4.0M§ | | | E | Y220 | |
| 38# | BD537 | | 50 Ø | $J | 4.0 | 1.0 | 80 | 5.0 | 80 | | 2.0 | 2.0 | 25 | | 3.0M§△ | | | E | Y220a | |
| 39# | BD537☑ | | 50 | | 4.0 | | | | 80 ♦ | | 2.0Ø | 2.0 | 15 | | 3.0m§△ | | | | Y220b | B |
| 40# | BD611 | | 15 | $J | 4.0 | | 22 | 5.0 | 22 ♦ | 100u | 1.0Ø | 500m | 85 | | 3.0M§△ | | | E | Y202c | B |
| 41# | BD613 | | 15 | $J | 4.0 | | 32 | 5.0 | 32 ♦ | 100u | 1.0Ø | 500m | 85 | | 3.0M§△ | | | E | Y202c | B |
| 42# | BD615 | | 15 | $J | 4.0 | | 45 | 5.0 | 45 ♦ | 100u | 1.0Ø | 500m | 85 | | 3.0M§△ | | | E | Y202c | B |
| 43# | BD617 | | 15 | $J | 4.0 | | 60 | 5.0 | 60 | 100u | 1.0Ø | 500m | 40 | | 3.0M§△ | | | E | Y202c | B |
| 44# | BD619 | | 15 | $J | 4.0 | | 80 | 5.0 | 80 | 100u | 1.0Ø | 500m | 40 | | 3.0M§△ | | | E | Y202c | B |
| 45# | BD633☑ | | 30 | | 2.0 | | | | 45 ♦ | | 2.0Ø | 1.0 | 25 | | 3.0m§△ | | | | Y220b | B |
| 46# | BD635☑ | | 30 | | 2.0 | | | | 60 ♦ | | 2.0Ø | 1.0 | 25 | | 3.0m§△ | | | | Y220b | B |
| 47# | BD637☑ | | 30 | | 2.0 | | | | 80 ♦ | | 2.0Ø | 1.0 | 25 | | 3.0m§△ | | | | Y220b | B |
| 48 | BD795 | | 65 | | | | | | 45 ♦ | | 2.0Ø | 3.0 | 25 | | 8.0M§ | | | E | y220b | |
| 49 | BD797 | | 65 | | | | | | 60 ♦ | | 2.0Ø | 3.0 | 25 | | 4.0M§ | | | E | y220b | |
| 50 | BD799 | | 65 | | | | | | 80 ♦ | | 2.0Ø | 3.0 | 15 | | 4.0M§ | | | E | y220b | |
| 51 | BD801 | | 65 | | | | | | 100 ♦ | | 2.0Ø | 3.0 | 15 | | 4.0M§ | | | E | y220b | |
| 52# | BD825-6 | | 8.0 | $J | 1.5 | 0.2 | 45 | 5.0 | 45 | 100n | 2.0Ø | 5.0m | 25 | | 50M△§ | | | EPL† | Y202 | B |
| 53# | BD825-10 | | 8.0 | $J | 1.5 | 0.2 | 45 | 5.0 | 45 | 100n | 2.0Ø | 5.0m | 25 | | 50M△§ | | | EPL† | Y202 | B |
| 54# | BD825-16 | | 8.0 | $J | 1.5 | 0.2 | 45 | 5.0 | 45 | 100n | 2.0Ø | 5.0m | 25 | | 50M△§ | | | EPL† | Y202 | B |
| 55# | BD845 | | 2.0 | $J | 1.5 | | 100 | 5.0 | 100 ♦ | 1.0u | 5.0Ø | 150m | 40 | 250 | 150M§ | | | E | Y202c | AØ |
| 56# | BD847 | | 2.0 | $J | 1.5 | | 120 | 5.0 | 120 ♦ | 1.0u | 5.0Ø | 150m | 40 | 250 | 150M§ | | | E | Y202c | AØ |
| 57# | BD849 | | 2.0 | $J | 1.5 | | 140 | 5.0 | 140 ♦ | 1.0u | 5.0Ø | 150m | 40 | 250 | 150M§ | | | E | Y202c | AØ |
| 58# | BDT29 | | 30 | $J | 3.0 | 400m | 40 | 5.0 | 40 | 300m△ | 4.0Ø | 1.0 | 15 | 75 | 3.0M§ | .30uØ | | PE | Y220a | D |
| 59# | BDT29A | | 30 | $J | 3.0 | 400m | 60 | 5.0 | 60 | 300m△ | 4.0Ø | 1.0 | 15 | 75 | 3.0M§ | .30uØ | | PE | Y220a | D |
| 60# | BDT29B | | 30 | $J | 3.0 | 400m | 80 | 5.0 | 80 | 300m△ | 4.0Ø | 1.0 | 15 | 75 | 3.0M§ | .30uØ | | PE | Y220a | D |
| 61# | BDT29C | | 30 | $J | 3.0 | 400m | 100 | 5.0 | 100 | 300m△ | 4.0Ø | 1.0 | 15 | 75 | 3.0M§ | .30uØ | | PE | Y220a | D |
| 62# | BDT31 | | 40 | $J | 3.0 | 1.0 | 45 | 5.0 | 45 | 300m△ | 4.0Ø | 3.0 | 10 | 50 | | .30uØ | | PE | Y220a | D |
| 63# | BDT31A | | 40 | $J | 3.0 | 1.0 | 60 | 5.0 | 60 | 300m△ | 4.0Ø | 3.0 | 10 | 50 | | .30uØ | | PE | Y220a | D |
| 64# | BDT31B | | 40 | $J | 3.0 | 1.0 | 80 | 5.0 | 80 | 300m△ | 4.0Ø | 3.0 | 10 | 50 | | .30uØ | | PE | Y220a | D |
| 65# | BDT31C | | 40 | $J | 3.0 | 1.0 | 100 | 5.0 | 100 | 300m△ | 4.0Ø | 3.0 | 10 | 50 | | .30uØ | | PE | Y220a | D |
| 66# | BDT41 | | 65 | $J | 6.0 | 3.0 | 40 | 5.0 | 40 | 700m | 4.0Ø | 3.0 | 15 | 75 | 3.0M§ | .60uØ | | PE | Y220a | D |
| 67# | BDT41A | | 65 | $J | 6.0 | 3.0 | 60 | 5.0 | 60 | 700m | 4.0Ø | 3.0 | 15 | 75 | 3.0M§ | .60uØ | | PE | Y220a | D |
| 68# | BDT41B | | 65 | $J | 6.0 | 3.0 | 80 | 5.0 | 80 | 700m | 4.0Ø | 3.0 | 15 | 75 | 3.0M§ | .60uØ | | PE | Y220a | D |
| 69# | BDT41C | | 65 | $J | 6.0 | 3.0 | 100 | 5.0 | 100 | 700m | 4.0Ø | 3.0 | 15 | 75 | 3.0M§ | .60uØ | | PE | Y220a | D |
| 70# | BDW25-4 | | 26 * | $J | 5.0 | 0.5 | 130 | 5.0 | 125 | 1.0u§ | 1.0Ø | 1.0 | 25 | 60 | 30M△§ | 1.0u§ | | EPL△ | F9a | C |
| 71# | BDW25-6 | | 26 * | $J | 5.0 | 0.5 | 130 | 5.0 | 125 | 1.0u§ | 1.0Ø | 1.0 | 40 | 100 | 30M△§ | 1.0u§ | | EPL△ | F9a | C |
| 72# | BDW25-10 | | 26 * | $J | 5.0 | 0.5 | 130 | 5.0 | 125 | 1.0u§ | 1.0Ø | 1.0 | 63 | 160 | 30M△§ | 1.0u§ | | EPL△ | F9a | C |
| 73 | BDX24☑ | | 29 | | 4.0 | | | | 40 | | | 1.5 | 25 | 100 | 1.0M§ | | | E | T066 | |
| 74# | BDX53E | | 6.0 | $J | 8.0 | .20 | 140 | 5.0 | 140 ♦ | .20m | 5.0Ø | 2.0 | 500 | | | | | E | Y220 | D |
| 75# | BDX53F | | 6.0 | $J | 8.0 | .20 | 160 | 5.0 | 160 ♦ | .20m | 5.0Ø | 2.0 | 500 | | | | | E | Y220 | D |
| 76# | BDX53S | | 1.0 | §J | 6.0 | .20 | 150 | 5.0 | 150 ♦ | .20m | 5.0Ø | 2.0 | 500 | | | | | E | T039 | A |
| 77# | BDX61 | | 150 | §J | 20 | | 80 | | 60 | | 4.0Ø | 500m | 20 | 250 | | | | | TO3 | C |
| 78# | BDY12 | | 26 * | §J | 5.0 | 0.3 | 60 | 5.0 | 40 | 1.0u§ | 1.0Ø | 1.0 | 40 | 100 | 70M△§ | 0.3uØ | | EPL△ | F9a | C |
| 79# | BDY13 | | 26 * | §J | 5.0 | 0.3 | 80 | 5.0 | 60 | 1.0u§ | 1.0Ø | 1.0 | 63 | 160 | 70M△§ | 0.3uØ | | EPL△ | F9a | C |
| 80# | BDY13-16 | | 26 * | §J | 5.0 | 0.3 | 80 | 5.0 | 60 | 1.0u§ | 1.0Ø | 1.0 | 100 | 250 | 70M△§ | 0.3uØ | | EPL△ | F9a | C |
| 81 | BDY58R† | | 175 | §J | 25 | 8.0 | | 8§ | | 1.0m | 4.0Ø | 10 | 20 # | 60 # | 48M§ | 3.0u*☑ | | | y204a | C |
| 82# | BF297W2 | | 1.2 | | 100m | | 160 | 5.0 | 160 | | 10Ø | 30m | 30 | 150 | 95M§ | | | | T092 | |
| 83# | BF297W | | 1.2 | | 100m | | 160 | 5.0 | 160 | | 10Ø | 30m | 30 | 150 | 95M§ | | | | T092 | |
| 84# | BF298W2 | | 1.2 | | 100m | | 250 | 5.0 | 250 | | 10Ø | 30m | 30 | 150 | 95M§ | | | | T092 | |
| 85# | BF298W | | 1.2 | | 100m | | 250 | 5.0 | 250 | | 10Ø | 30m | 30 | 150 | 95M§ | | | | T092 | |
| 86# | BF299W2 | | 1.2 | | 100m | | 300 | 5.0 | 300 | | 10Ø | 30m | 30 | 150 | 95M§ | | | | T092 | |
| 87# | BF299W | | 1.2 | | 100m | | 300 | 5.0 | 300 | | 10Ø | 30m | 30 | 150 | 95M§ | | | | T092 | |
| 88# | BF391W1 | | 1.2 | | 200m | | 200 | 6.0 | 200 | | 10Ø | 10m | 40 | | 95M§ | | | | T092 | |
| 89# | BF391W2 | | 1.2 | | 200m | | 200 | 6.0 | 200 | | 10Ø | 10m | 40 | | 50M△§ | | | | T092 | |
| 90# | BF392W1 | | 1.2 | | 200m | | 250 | 8.0 | 250 | | 10Ø | 10m | 40 | | 50M△§ | | | | T092 | |
| 91# | BF392W2 | | 1.2 | | 200m | | 250 | 8.0 | 250 | | 10Ø | 10m | 40 | | 50M△§ | | | | T092 | |
| 92# | BF393W1 | | 1.2 | | 200m | | 300 | 8.0 | 300 | | 10Ø | 10m | 40 | | 50M△§ | | | | T092 | |
| 93# | BF393W2 | | 1.2 | | 200m | | 300 | 8.0 | 300 | | 10Ø | 10m | 40 | | 50M△§ | | | | T092 | |
| 94# | BF419△† | | 60 | $J | 100m | | 300 | 5.0 | 250 ♦ | 50n | 10Ø | 20m | 45 | | | .50u§ | † | | T0126 | BØ |
| 95# | BF422W3 | | 1.0 | | 100m | | 250 | 5.0 | 250 | | 20Ø | 25m | 50 | | 60M△§ | | | | T092 | |
| 96# | BF422W | | 1.0 | | 100m | | 250 | 5.0 | 250 | | 20Ø | 25m | 50 | | 60M△§ | | | | T092 | |
| 97 | BF622 | | 1.0 | $J | 20m | | 250 | 5.0 | 250 ♦ | 100n | 20Ø | 25m | 51 | | 60M§ | | | E | Z166 | Ø |
| 98# | BF819 | | 6.0 | $J | 100m | 50m | 300 | 5.0 | 250 ♦ | 50n | 10Ø | 20m | | 45 Ø | | 500n§ | † | | Y202a | |
| 99# | BF819A | | 6.0 | $J | 100m | | 300 | 50 | 250 ♦ | 50n | 10Ø | 20m | 45 Ø | | | 0.5u§ | † | | Y202 | A |
| 100# | BFN16 | | 2.0 Ø | | 200m | | 250 | | 250 | | 10Ø | 10m | 40 | | 60M§△ | | | | X166 | B |
| 101# | BFN18 | | 2.0 Ø | | 200m | | 300 | | 300 | | 10Ø | 10m | 40 | | 60M§△ | | | | X166 | B |
| 102# | BFP11 | | 1.2 | $J | 500m | | 150 | 6.0 | 100 | 5.0u | 1.0Ø | 20m | 25 | | 60M§ | | | PL | T092 | B |
| 103# | BFP12 | | 1.2 | $J | 500m | | 250 | 6.0 | 200 | 5.0u | 1.0Ø | 20m | 25 | | 60M§ | | | PL | T092 | B |
| 104# | BFP13 | | 1.2 | $J | 500m | | 350 | 6.0 | 300 | 5.0u | 1.0Ø | 20m | 25 | | 60M§ | | | PL | T092 | B |
| 105# | BFP14 | | 1.2 | $J | 500m | | 450 | 6.0 | 400 | 10u | 1.0Ø | 20m | 25 | | 60M§ | | | PL | T092 | B |
| 106# | BFQ17 | | 1.5 | §J | 150m | | 40 | 2.0 | 25 | 20u | 5.0Ø | 50m | 25 | | 1.2G§ | | | PE† | X166 | B |
| 107# | BFR22☑ | | 5.0 | | 1.0 | | | | 65 ♦ | | 10Ø | 150m | 40 | 120 | | | | | T039 | A |
| 108# | BFT47 | | 5.0 | | 100m | | | | 160 ♦ | | 10Ø | 30m | 25 | | 50M§△ | | | | T039 | A |
| 109# | BFT48 | | 5.0 | | 100m | | | | 250 ♦ | | 10Ø | 30m | 25 | | 50M§△ | | | | T039 | A |
| 110# | BFT49 | | 5.0 | | 100m | | | | 300 ♦ | | 10Ø | 30m | 25 | | 50M§△ | | | | T039 | A |