

# 12. SWITCHING TRANSISTORS

IN ORDER OF (1) MAX RISE TIME, (2) fab & (3) TYPE No.

| LINE No. | TYPE No.  | fab    | MAX RISE TIME tr (s) | MAX DELAY TIME td (s) | MAX STORE TIME ts (s) | MAX FALL TIME tf (s) | MAX. Pc IN FREE AIR @ 25°C (W) | BIAS    |        |        | MAX. SAT. RES. (Ω) | Cob (F) | r <sub>bb</sub> X Cob (s) | STRUCTURE P-NPN N-NPN | M A T | MAX. TEMP (°C) | DWG # Y200 TO200 Ser. | L C O D E |
|----------|-----------|--------|----------------------|-----------------------|-----------------------|----------------------|--------------------------------|---------|--------|--------|--------------------|---------|---------------------------|-----------------------|-------|----------------|-----------------------|-----------|
|          |           |        |                      |                       |                       |                      |                                | Vcb (V) | Ie (A) | hFE    |                    |         |                           |                       |       |                |                       |           |
| 1        | 1768-1410 | 30MΔ   | 300n                 |                       | 500n                  | 300n                 | 100 0\$                        | 2.0 0   | 10     | 20 Δ # | 800p               |         | N-E                       | Si                    | 200J  | T063           | A                     |           |
| 2        | 1768-1610 | 30MΔ   | 300n                 |                       | 500n                  | 300n                 | 100 0\$                        | 2.0 0   | 10     | 20 Δ # | 800p               |         | N-E                       | Si                    | 200J  | T063           | A                     |           |
| 3        | 1768-1810 | 30MΔ   | 300n                 |                       | 500n                  | 300n                 | 100 0\$                        | 2.0 0   | 10     | 20 Δ # | 800p               |         | N-E                       | Si                    | 200J  | T063           | A                     |           |
| 4        | 1814-2001 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 5        | 1814-2201 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 6        | 1814-2501 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 7        | 1814-2701 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 8        | 1814-3001 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 9        | 1814-3201 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 10       | 1814-3501 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 11       | 1814-3701 | 30MΔ   | 300n                 |                       | 600n                  | 300n                 | 44 0\$                         | 4.0 0   | 1.0 0  | 20 Δ # | 600m #             | 250p    | N-E                       | Si                    | 150J  | T066           | C                     |           |
| 12       | BSX62-10  | 30MΔ   | 300n                 |                       | 1.5u                  |                      | 875m                           | 1.0     | 100m   | 110    | 700m               | 70p     | N-PE                      | Si                    | 200J  | T039           | A                     |           |
| 13       | BSX62-16  | 30MΔ   | 300n                 |                       | 1.5u                  |                      | 875m                           | 1.0     | 100m   | 180    | 700m               | 70p     | N-PE                      | Si                    | 200J  | T039           | A                     |           |
| 14       | BSX63-10  | 30MΔ   | 300n                 |                       | 1.5u                  |                      | 875m                           | 1.0     | 100m   | 110    | 700m               | 70p     | N-PE                      | Si                    | 200J  | T039           | A                     |           |
| 15       | BSX63-16  | 30MΔ   | 300n                 |                       | 1.5u                  |                      | 875m                           | 1.0     | 100m   | 180    | 700m               | 70p     | N-PE                      | Si                    | 200J  | T039           | A                     |           |
| 16       | BSX64-10  | 30MΔ   | 300n                 |                       | 1.5u                  |                      | 875m                           | 1.0     | 100m   | 110    | 700m               | 70p     | N-PE                      | Si                    | 200J  | T039           | A                     |           |
| 17       | SCA14024  | 30M    | 300n                 |                       | 500n                  | 100n                 | 200 0                          | 5.0     | 20     | 30 Δ   | 50m                |         | N                         | Si                    | 200J  | T063           | A                     |           |
| 18       | SCA14025  | 30M    | 300n                 |                       | 500n                  | 100n                 | 200 0                          | 5.0     | 20     | 30 Δ   | 50m                |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 19       | SCA14026  | 30M    | 300n                 |                       | 500n                  | 100n                 | 200 0                          | 5.0     | 20     | 30 Δ   | 50m                |         | N                         | Si                    | 200J  | T063           | A                     |           |
| 20       | SCA14027  | 30M    | 300n                 |                       | 500n                  | 100n                 | 200 0                          | 5.0     | 20     | 30 Δ   | 50m                |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 21       | SCA14028  | 30M    | 300n                 |                       | 500n                  | 100n                 | 200 0                          | 5.0     | 20     | 30 Δ   | 50m                |         | N                         | Si                    | 200J  | T063           | A                     |           |
| 22       | SCA14029  | 30M    | 300n                 |                       | 500n                  | 100n                 | 200 0                          | 5.0     | 20     | 30 Δ   | 50m                |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 23       | SDT3205   | 30.0MΔ | 300n                 |                       | 1.5u                  | 300n                 | 87 0\$                         | 5.0     | 5.0    | 90 #   | 500p               |         | N-PE                      | Si                    | 200J  | T061           | A                     |           |
| 24       | SDT3206   | 30.0MΔ | 300n                 |                       | 1.5u                  | 300n                 | 87 0\$                         | 5.0     | 5.0    | 90 #   | 500p               |         | N-PE                      | Si                    | 200J  | T061           | A                     |           |
| 25       | SDT3207   | 30.0MΔ | 300n                 |                       | 1.5u                  | 300n                 | 87 0\$                         | 5.0     | 5.0    | 90 #   | 500p               |         | N-PE                      | Si                    | 200J  | T061           | A                     |           |
| 26       | SDT3208   | 30.0MΔ | 300n                 |                       | 1.5u                  | 300n                 | 87 0\$                         | 5.0     | 5.0    | 90 #   | 500p               |         | N-PE                      | Si                    | 200J  | T061           | A                     |           |
| 27       | SDT3209   | 30.0MΔ | 300n                 |                       | 1.5u                  | 300n                 | 87 0\$                         | 5.0     | 5.0    | 90 #   | 500p               |         | N-PE                      | Si                    | 200J  | T061           | A                     |           |
| 28       | 2N3418    | 40.0MΔ | 300n                 |                       | 1.2u                  | 15 0\$               | 2.0                            | 2.0     | 1      | 60 #   | .25                | 150p    | N                         | Si                    | 200C  | T05            | A                     |           |
| 29       | 2N3419    | 40.0MΔ | 300n                 |                       | 1.2u                  | 15 0\$               | 2.0                            | 2.0     | 1      | 120 #  | .25                | 150p    | N                         | Si                    | 200C  | T05            | A                     |           |
| 30       | 2N3420    | 40.0MΔ | 300n                 |                       | 1.2u                  | 15 0\$               | 2.0                            | 2.0     | 1      | 60 #   | .25                | 150p    | N                         | Si                    | 200C  | T05            | A                     |           |
| 31       | 2N3421    | 40.0MΔ | 300n                 |                       | 1.2u                  | 15 0\$               | 2.0                            | 2.0     | 1      | 120 #  | .25                | 150p    | N                         | Si                    | 200C  | T05            | A                     |           |
| 32       | 2N3551    | 40.0MΔ | 300n                 |                       | 2.5u                  | 40                   | 2.0                            | 2.0     | 10     | 90 #   | .10                | 850p    | N                         | Si                    | 200S  | W39            | A                     |           |
| 33       | 2N3552    | 40.0MΔ | 300n                 |                       | 2.5u                  | 40                   | 2.0                            | 2.0     | 10     | 90 #   | .10                | 850p    | N                         | Si                    | 200S  | W39            | A                     |           |
| 34       | 2N3996    | 40.0MΔ | 300n                 |                       | 1.5u                  | 30 0\$               | 5.0                            | 5.0     | 5.0    | 15 Δ # | 150p               |         | N                         | Si                    | 200J  | T53            | M                     |           |
| 35       | 2N3997    | 40.0MΔ | 300n                 |                       | 2.0u                  | 30 0\$               | 5.0                            | 5.0     | 5.0    | 20 Δ # | 150p               |         | N                         | Si                    | 200J  | T53            | M                     |           |
| 36       | 2N3998    | 40.0MΔ | 300n                 |                       | 1.5u                  | 30 0\$               | 5.0                            | 5.0     | 5.0    | 15 Δ # | 150p               |         | N                         | Si                    | 200J  | T42            | A                     |           |
| 37       | 2N3999    | 40.0MΔ | 300n                 |                       | 2.0u                  | 30 0\$               | 5.0                            | 5.0     | 5.0    | 20 Δ # | 150p               |         | N                         | Si                    | 200J  | T42            | A                     |           |
| 38       | 2N4000    | 40.0MΔ | 300n                 |                       | 2u                    | 15 0\$               | 2.0                            | 2.0     | 50m    | 10 Δ   | 500m               | 60p     | N                         | Si                    | 200J  | T05            | A                     |           |
| 39       | 2N4001    | 40.0MΔ | 300n                 |                       | 2u                    | 15 0\$               | 2.0                            | 2.0     | 50m    | 20 Δ   | 500m               | 60p     | N                         | Si                    | 200J  | T05            | A                     |           |
| 40       | 2N6338    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 300p               |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 41       | 2N6339    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 300p               |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 42       | 2N6340    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 300p               |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 43       | 2N6341    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 300p               |         | N                         | Si                    | 200J  | T03            | C                     |           |
| 44       | 2N6436    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 700p               |         | P                         | Si                    | 200J  | T03            | C                     |           |
| 45       | 2N6437    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 700p               |         | P                         | Si                    | 200J  | T03            | C                     |           |
| 46       | 2N6438    | 40.0MΔ | 300n                 |                       | 1.0u                  | 250n                 | 200 0                          | 2.0     | 2.0    | 25 0   | 700p               |         | P                         | Si                    | 200J  | T03            | C                     |           |
| 47       | 1714-0402 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 48       | 1714-0602 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 49       | 1714-0802 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 50       | 1714-1002 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 51       | 1714-1202 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 52       | 1714-1402 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 53       | 1714-1602 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 54       | 1714-1802 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 25 0\$                         | 2.0     | 2.0    | 20 Δ # | 300m #             | 250p    | N-E                       | Si                    | 200J  | T066           | C                     |           |
| 55       | 1716-0402 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 56       | 1716-0602 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 57       | 1716-0802 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 58       | 1716-1002 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 59       | 1716-1202 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 60       | 1716-1402 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 61       | 1716-1602 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 62       | 1716-1802 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 87                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T061           | A                     |           |
| 63       | 1718-0402 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 64       | 1718-0602 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 65       | 1718-0802 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 66       | 1718-1002 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 67       | 1718-1202 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 68       | 1718-1402 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 69       | 1718-1602 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 70       | 1718-1802 | 40.0MΔ | 300n                 |                       | 600n                  | 300n                 | 58                             | 2.0     | 2.0    | 20     | 250p               |         | N-EM                      | Si                    | 200J  | T0111          | G                     |           |
| 71 #     | BU325     | 40M    | 300n                 |                       | 1.2u                  | 1.0u                 | 25 0                           | 5.0     | 5.0    | 50m    | 200 #              | 50p     | N-PE1                     | Si                    | 150J  | T0126          | B                     |           |
| 72       | RC6340    | 40MΔ   | 300n                 |                       | 0.3u                  | 1.0u                 | 250                            | 2.0     | 2.0    | 10     | 120 #              | 600p    | N                         | Si                    | 200J  | y204a          | C                     |           |
| 73       | RC6341    | 40MΔ   | 300n                 |                       | 0.3u                  | 1.0u                 | 250                            | 2.0     | 2.0    | 10     | 120 #              | 600p    | N                         | Si                    | 200J  | y204a          | C                     |           |
| 74       | 2N4075    | 46.0M  | 300n                 |                       | 1.5u                  | 30 0\$               | 5.0                            | 5.0     | 2.0    | 75 #   | 500m               | 70p     | N-DPE                     | Si                    | 200J  | T059           | A                     |           |
| 75       | 2N4076    | 46.0M  | 300n                 |                       | 1.5u                  | 30 0\$               | 5.0                            | 5.0     | 2.0    | 50 #   | 500m               | 70p     | N-DPE                     | Si                    | 200J  | T059           | A                     |           |
| 76       | 2N2890    | 50MΔ   | 300n                 |                       | 1.5u                  | 5.0 0\$              | 2.0                            | 2.0     | 1.0    | 50 Δ # | 120p               |         | N                         | Si                    | 200J  | T05            | A                     |           |
| 77       | 2N2891    | 50MΔ   | 300n                 |                       | 1.5u                  | 5.0 0\$              | 2.0                            | 2.0     | 1.0    | 30 Δ # | 120p               |         | N                         | Si                    | 200J  | T05            | A                     |           |
| 78       | 2N2892    | 50MΔ   | 300n                 |                       | 1.5u                  | 17 0\$               | 2.0                            | 2.0     | 1.0    | 50 Δ # | 120p               |         | N                         | Si                    | 200J  | T059           | A                     |           |
| 79       | 2N2893    | 50MΔ   | 300n                 |                       | 1.5u                  | 17 0\$               | 2.0                            | 2.0     | 1.0    | 30 Δ # | 120p               |         | N                         | Si                    | 200J  | T059           | A                     |           |
| 80       | 2N4895    | 50MΔ   | 300n                 | 50n                   | 350n                  | 300n                 | 4.0 0\$                        | 2.0     | 2.0    | 120    | 200m               | 80p     | N                         | Si                    | 200J  | T039           | C                     |           |
| 81       | 2N4897    | 50MΔ   | 300n                 | 50n                   | 350n                  | 300n                 | 4.0 0\$                        | 2.0     | 2.0    | 120    |                    |         |                           |                       |       |                |                       |           |