

# Medium Power Amplifiers and Switches

| TYPE NO. | POLARITY | CASE   | MAXIMUM RATINGS        |                       |                         | H <sub>FE</sub> |     |                        |                        | V <sub>CE(SAT)</sub> |                       | f <sub>T</sub><br>min<br>(MHz) | Cob<br>max<br>(pF) | COMPLEMENTARY<br>TYPE |
|----------|----------|--------|------------------------|-----------------------|-------------------------|-----------------|-----|------------------------|------------------------|----------------------|-----------------------|--------------------------------|--------------------|-----------------------|
|          |          |        | P <sub>d</sub><br>(mW) | I <sub>C</sub><br>(A) | V <sub>CEO</sub><br>(V) | min             | max | I <sub>C</sub><br>(mA) | V <sub>CE</sub><br>(V) | max<br>(V)           | I <sub>C</sub><br>(A) |                                |                    |                       |
| 2N3073   | P        | TO-18  | 360                    | 0.5                   | 60                      | 30              | 130 | 50                     | 1                      | 1                    | 0.3                   | 130                            | 10                 | —                     |
| 2N3081   | P        | TO-39  | 600                    | 0.6                   | 50                      | 30              | 90  | 150                    | 10                     | 0.3                  | 0.15                  | 150                            | 13                 | —                     |
| 2N3107   | N        | TO-39  | 800                    | 1                     | 60                      | 100             | 300 | 150                    | 10                     | 1                    | 1                     | 70                             | 20                 | 2N4032                |
| 2N3108   | N        | TO-39  | 800                    | 1                     | 60                      | 40              | 120 | 150                    | 10                     | 0.25                 | 0.15                  | 60                             | 20                 | 2N4030                |
| 2N3109   | N        | TO-39  | 800                    | 1                     | 40                      | 100             | 300 | 150                    | 10                     | 1                    | 1                     | 70                             | 25                 | 2N4033                |
| 2N3110   | N        | TO-39  | 800                    | 1                     | 40                      | 40              | 120 | 150                    | 10                     | 0.25                 | 0.15                  | 60                             | 25                 | —                     |
| 2N3115   | N        | TO-18  | 400                    | 0.6                   | 20                      | 40              | 120 | 150                    | 10                     | 0.5                  | 0.15                  | 250                            | 8                  | —                     |
| 2N3116   | N        | TO-18  | 400                    | 0.6                   | 20                      | 100             | 300 | 150                    | 10                     | 0.5                  | 0.15                  | 250                            | 8                  | —                     |
| 2N3120   | P        | TO-39  | 800                    | 0.5                   | 45                      | 30              | 130 | 50                     | 1                      | 1                    | 0.5                   | 130                            | 10                 | —                     |
| 2N3121   | P        | TO-18  | 360                    | 0.5                   | 45                      | 30              | 130 | 50                     | 1                      | 1                    | 0.5                   | 130                            | 10                 | —                     |
| 2N3133   | P        | TO-39  | 600                    | 0.6                   | 35                      | 40              | 120 | 150                    | 10                     | 0.6                  | 0.15                  | 200                            | 10                 | —                     |
| 2N3134   | P        | TO-39  | 600                    | 0.6                   | 35                      | 100             | 300 | 150                    | 10                     | 0.6                  | 0.15                  | 200                            | 10                 | —                     |
| 2N3135   | P        | TO-18  | 400                    | 0.6                   | 35                      | 40              | 120 | 150                    | 10                     | 0.6                  | 0.15                  | 200                            | 10                 | —                     |
| 2N3136   | P        | TO-18  | 400                    | 0.6                   | 35                      | 100             | 300 | 150                    | 10                     | 0.6                  | 0.15                  | 200                            | 10                 | —                     |
| 2N3299   | N        | TO-39  | 800                    | 0.5                   | 30                      | 40              | 120 | 150                    | 10                     | 0.6                  | 0.5                   | 250                            | 8                  | —                     |
| 2N3300   | N        | TO-39  | 800                    | 0.5                   | 30                      | 100             | 300 | 150                    | 10                     | 0.6                  | 0.5                   | 250                            | 8                  | —                     |
| 2N3301   | N        | TO-18  | 360                    | 0.5                   | 30                      | 40              | 120 | 150                    | 10                     | 0.6                  | 0.5                   | 250                            | 8                  | —                     |
| 2N3302   | N        | TO-18  | 360                    | 0.5                   | 30                      | 100             | 300 | 150                    | 10                     | 0.6                  | 0.5                   | 250                            | 8                  | —                     |
| 2N3326   | N        | TO-39  | 800                    | 0.8                   | 45                      | 40              | 120 | 150                    | 10                     | 0.6                  | 0.5                   | 250                            | 8                  | —                     |
| 2N3414   | N        | TO-92B | 360                    | 0.5                   | 25                      | 75              | 225 | 2                      | 4.5                    | 0.3                  | 0.05                  | —                              | —                  | —                     |
| 2N3415   | N        | TO-92B | 360                    | 0.5                   | 25                      | 180             | 540 | 2                      | 4.5                    | 0.3                  | 0.05                  | —                              | —                  | —                     |
| 2N3416   | N        | TO-92B | 360                    | 0.5                   | 50                      | 75              | 225 | 2                      | 4.5                    | 0.3                  | 0.05                  | —                              | —                  | —                     |
| 2N3417   | N        | TO-92B | 360                    | 0.5                   | 50                      | 180             | 540 | 2                      | 4.5                    | 0.3                  | 0.05                  | —                              | —                  | —                     |
| 2N3502   | P        | TO-39  | 800                    | 0.6                   | 45                      | 100             | 300 | 150                    | 10                     | 1                    | 0.3                   | 200                            | 8                  | —                     |
| 2N3503   | P        | TO-39  | 800                    | 0.6                   | 60                      | 100             | 300 | 150                    | 10                     | 1                    | 0.3                   | 200                            | 8                  | —                     |
| 2N3504   | P        | TO-18  | 400                    | 0.6                   | 45                      | 100             | 300 | 150                    | 10                     | 1                    | 0.3                   | 200                            | 8                  | —                     |
| 2N3505   | P        | TO-18  | 400                    | 0.6                   | 60                      | 100             | 300 | 150                    | 10                     | 1                    | 0.3                   | 200                            | 8                  | —                     |
| 2N3678   | N        | TO-39  | 800                    | 0.8                   | 55                      | 40              | 120 | 150                    | 10                     | 1                    | 0.5                   | 250                            | 8                  | —                     |
| 2N3700   | N        | TO-18  | 500                    | 1                     | 80                      | 100             | 300 | 150                    | 10                     | 0.5                  | 0.5                   | 100                            | 12                 | —                     |
| 2N3701   | N        | TO-18  | 500                    | 1                     | 80                      | 40              | 120 | 150                    | 10                     | 0.5                  | 0.5                   | 80                             | 12                 | —                     |
| 2N3702   | P        | TO-92B | 360                    | 0.2                   | 25                      | 60              | 300 | 50                     | 5                      | 0.25                 | 0.05                  | 100                            | 12                 | 2N3704                |
| 2N3703   | P        | TO-92B | 360                    | 0.2                   | 30                      | 30              | 150 | 50                     | 5                      | 0.25                 | 0.05                  | 100                            | 12                 | 2N3706                |
| 2N3704   | N        | TO-92B | 360                    | 0.2                   | 30                      | 100             | 300 | 50                     | 2                      | 0.6                  | 0.1                   | 100                            | 12                 | 2N3702                |
| 2N3705   | N        | TO-92B | 360                    | 0.2                   | 30                      | 50              | 150 | 50                     | 2                      | 0.8                  | 0.1                   | 100                            | 12                 | 2N3702                |
| 2N3706   | N        | TO-92B | 360                    | 0.2                   | 20                      | 30              | 600 | 50                     | 2                      | 1                    | 0.1                   | 100                            | 12                 | 2N3703                |
| 2N3793   | N        | TO-92B | 250                    | 0.5                   | 20                      | 20              | 120 | 10                     | 10                     | 0.4                  | 0.01                  | 100                            | 10                 | —                     |
| 2N3794   | N        | TO-92B | 250                    | 0.5                   | 20                      | 100             | 600 | 10                     | 10                     | 0.4                  | 0.01                  | 100                            | 10                 | —                     |
| 2N3945   | N        | TO-39  | 5000▲                  | 1                     | 50                      | 40              | 250 | 150                    | 10                     | 0.5                  | 0.15                  | 60                             | 12                 | —                     |
| 2N4029   | P        | TO-18  | 500                    | 1                     | 80                      | 100             | 300 | 100                    | 5                      | 0.5                  | 0.5                   | 150+                           | 20                 | —                     |
| 2N4030   | P        | TO-39  | 800                    | 1                     | 60                      | 40              | 120 | 100                    | 5                      | 0.5                  | 0.5                   | 100                            | 20                 | 2N3108                |
| 2N4031   | P        | TO-39  | 800                    | 1                     | 80                      | 40              | 120 | 100                    | 5                      | 0.5                  | 0.5                   | 100                            | 20                 | 2N3020                |
| 2N4032   | P        | TO-39  | 800                    | 1                     | 60                      | 100             | 300 | 100                    | 5                      | 0.5                  | 0.5                   | 150                            | 20                 | 2N3107                |
| 2N4033   | P        | TO-39  | 800                    | 1                     | 80                      | 100             | 300 | 100                    | 5                      | 0.5                  | 0.5                   | 150                            | 20                 | 2N3109                |
| 2N4036   | P        | TO-39  | 1000                   | 1                     | 65                      | 40              | 140 | 150                    | 10                     | 0.65                 | 0.15                  | 60                             | 30                 | 2N2102                |
| 2N4037   | P        | TO-39  | 1000                   | 1                     | 40                      | 50              | 250 | 150                    | 10                     | 1.4                  | 0.15                  | 60                             | 30                 | 2N3053                |
| 2N4140   | N        | TO-106 | 300                    | 0.2                   | 30                      | 40              | 120 | 150                    | 10                     | 0.4                  | 0.15                  | 250                            | 8                  | —                     |
| 2N4141   | N        | TO-106 | 300                    | 0.2                   | 30                      | 100             | 300 | 150                    | 10                     | 0.4                  | 0.15                  | 250                            | 8                  | —                     |
| 2N4242   | P        | TO-106 | 300                    | 0.2                   | 40                      | 40              | 120 | 150                    | 10                     | 0.4                  | 0.15                  | 200                            | 8                  | —                     |
| 2N4143   | P        | TO-106 | 300                    | 0.2                   | 40                      | 100             | 300 | 150                    | 10                     | 0.4                  | 0.15                  | 200                            | 8                  | —                     |
| 2N4227   | N        | TO-106 | 300                    | 0.2                   | 30                      | 75              | 150 | 150                    | 10                     | 0.4                  | 0.15                  | 250                            | 8                  | —                     |
| 2N4228   | P        | TO-106 | 300                    | 0.2                   | 40                      | 75              | 150 | 150                    | 10                     | 0.4                  | 0.15                  | 200                            | 8                  | —                     |
| 2N4234   | P        | TO-39  | 1000                   | 3                     | 40                      | 30              | 150 | 250                    | 1                      | 0.6                  | 1                     | 3                              | 100                | 2N4237                |
| 2N4235   | P        | TO-39  | 1000                   | 3                     | 60                      | 30              | 150 | 250                    | 1                      | 0.6                  | 1                     | 3                              | 100                | 2N4238                |
| 2N4236   | P        | TO-39  | 1000                   | 1                     | 80                      | 30              | 150 | 250                    | 1                      | 0.6                  | 1                     | 3                              | 100                | 2N4239                |
| 2N4237   | N        | TO-39  | 1000                   | 1                     | 40                      | 30              | 150 | 250                    | 1                      | 0.6                  | 1                     | 2                              | 100                | 2N4234                |

▲T<sub>c</sub> = 25°C