

| TYPE    | MATERIAL | POLARITY | REPLACE-<br>MENT | PAGE<br>NUMBER         | USE | MAXIMUM RATINGS          |                           |                      |                            |                              |           | ELECTRICAL CHARACTERISTICS       |       |                                       |         |                 |           |                         |           |       |   |
|---------|----------|----------|------------------|------------------------|-----|--------------------------|---------------------------|----------------------|----------------------------|------------------------------|-----------|----------------------------------|-------|---------------------------------------|---------|-----------------|-----------|-------------------------|-----------|-------|---|
|         |          |          |                  |                        |     | P <sub>D</sub><br>@ 25°C | P <sub>Point</sub><br>Ref | T <sub>J</sub><br>°C | V <sub>CB</sub><br>(volts) | V <sub>CE--</sub><br>(volts) | Subscript | h <sub>FE</sub> @ I <sub>C</sub> |       | V <sub>CE(SAT)</sub> @ I <sub>C</sub> |         | h <sub>FE</sub> | Subscript | f <sub>T</sub><br>Units | Subscript |       |   |
|         |          |          |                  |                        |     |                          |                           |                      |                            |                              |           | (min)                            | (max) | Units                                 | (volts) |                 |           |                         |           | Units |   |
| 2N992   | G        | P        | 2N3250<br>2N3248 | 8-61<br>8-208<br>8-204 | RFC | 67M                      | A                         | 75                   | 20                         | 20                           | R         | 40                               |       | 1.0M                                  |         | 40              | E         |                         |           |       |   |
| 2N993   | G        | P        |                  |                        | RFC | 67M                      | A                         | 75                   | 20                         | 20                           | R         | 40                               |       | 1.0M                                  |         | 40              | E         |                         |           |       |   |
| 2N994   | G        | P        |                  |                        | HSS | 200M                     | A                         | 150                  | 15                         | 6.0                          | 0         | 45                               | 140   | 10M                                   | 0.18    | 10M             |           |                         |           |       |   |
| 2N995   | S        | P        |                  |                        | RFA | 360M                     | A                         | 200                  | 20                         | 15                           | 0         | 35                               | 140   | 20M                                   | 0.2     | 20M             |           |                         | 100M      | T     |   |
| 2N995A  | S        | P        |                  |                        | RFA | 360M                     | A                         | 200                  | 20                         | 15                           | 0         | 35                               | 140   | 20M                                   | 0.2     | 20M             |           |                         | 100M      | T     |   |
| 2N996   | S        | P        |                  |                        | RFA | 360M                     | A                         | 200                  | 15                         | 12                           | 0         | 35                               |       | 20M                                   | 0.3     | 60M             |           |                         | 100M      | T     |   |
| 2N997   | S        | N        |                  |                        | AFA | 500M                     | A                         | 175                  | 75                         | 40                           | 0         | 35                               |       | 100*                                  | 1.6     | 50M             |           |                         |           |       |   |
| 2N998   | S        | N        |                  |                        | SPP | 500M                     | A                         | 200                  | 100                        | 60                           | 0         |                                  |       |                                       | 1.2     | 100M            | 1000      | E                       |           |       |   |
| 2N999   | S        | N        |                  |                        | SPP | 500M                     | A                         | 200                  | 60                         | 60                           | 0         |                                  |       |                                       | 1.6     | 100M            |           |                         |           |       |   |
| 2N1000  | G        | N        |                  |                        | MSA | 150M                     | A                         | 100                  | 40                         | 25                           | 0         |                                  |       | 40                                    | 10M     | 0.25            | 100M      |                         |           | 7.0M  | E |
| 2N1003  | G        | P        |                  |                        | RFA | 120M                     | A                         | 100                  | 35                         | 20                           | 0         |                                  |       |                                       |         |                 |           |                         |           |       |   |
| 2N1004  | G        | P        |                  |                        | WID | 120M                     | A                         | 100                  | 35                         | 20                           | 0         |                                  |       |                                       |         |                 |           |                         |           |       |   |
| 2N1005  | S        | N        |                  |                        | AFA | 150M                     | A                         | 175                  | 15                         | 15                           | 0         | 10                               | 25    | 10M                                   | 0.6     | 10M             |           |                         |           |       |   |
| 2N1006  | S        | N        |                  |                        | AFA | 150M                     | A                         | 175                  | 15                         | 15                           | 0         | 25                               | 150   | 10M                                   | 0.6     | 10M             |           |                         |           |       |   |
| 2N1007  | G        | P        | LPA              | 35W                    | C   | 95                       | 25                        | 20                   | 0                          | 50                           | 250       | 1.0A                             | 1.0   | 2.0A                                  |         |                 | 60K       | T                       |           |       |   |
| 2N1008  | G        | P        | AFA              | 0.3W                   | C   | 85                       | 20                        | 15                   | R                          |                              |           |                                  | 0.25  | 0.1A                                  |         |                 |           |                         |           |       |   |
| 2N1008A | G        | P        | AFA              | 0.3W                   | C   | 85                       | 40                        | 35                   | R                          |                              |           |                                  | 0.25  | 0.1A                                  |         |                 |           |                         |           |       |   |
| 2N1008B | G        | P        | AFA              | 0.3W                   | C   | 85                       | 60                        | 55                   | R                          |                              |           |                                  | 0.25  | 0.1A                                  |         |                 |           |                         |           |       |   |
| 2N1009  | G        | P        | AFA              | 0.4W                   | C   | 85                       | 35                        | 35                   | R                          |                              |           |                                  | 0.25  | 0.1A                                  |         |                 | 7.5K      | E                       |           |       |   |
| 2N1010  | G        | N        | APC              | 20M                    | A   | 55                       | 10                        | 10                   | 0                          |                              |           |                                  |       |                                       |         |                 |           |                         |           |       |   |
| 2N1011  | G        | P        | LPA              | 35W                    | C   | 95                       | 80                        | 80                   | S                          | 30                           | 75        | 3.0A                             | 1.5   | 3.0A                                  |         |                 | 5.0K      | E                       |           |       |   |
| 2N1012  | G        | N        | MSA              | 150M                   | A   | 100                      | 40                        | 25                   | 0                          | 20                           |           | 100M                             | 0.2   | 100M                                  |         |                 | 3.0M      | E                       |           |       |   |
| 2N1014  | G        | P        | LPA              | 50M                    | A   | 100                      | 100                       | 65                   | 0                          | 40                           | 50        | 4.0A                             | 0.8   | 4.0A                                  |         |                 | 0.5M      | B                       |           |       |   |
| 2N1015  | S        | N        | PMS              | 150W                   | C   | 150                      | 30                        | 30                   | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1015A | S        | N        | PMS              | 150W                   | C   | 150                      | 60                        | 60                   | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1015B | S        | N        | PMS              | 150W                   | C   | 150                      | 100                       | 100                  | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1015C | S        | N        | PMS              | 150W                   | C   | 150                      | 150                       | 150                  | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1015D | S        | N        | PMS              | 150W                   | C   | 150                      | 200                       | 200                  | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1015E | S        | N        | PMS              | 150W                   | C   | 150                      | 250                       | 250                  | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1015F | S        | N        | PMS              | 150W                   | C   | 150                      | 300                       | 300                  | V                          | 10                           |           | 2.0A                             | 1.5   | 2.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016  | S        | N        | PMS              | 150W                   | C   | 150                      | 30                        | 30                   | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016A | S        | N        | PMS              | 150W                   | C   | 150                      | 60                        | 60                   | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016B | S        | N        | PMS              | 150W                   | C   | 150                      | 100                       | 100                  | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016C | S        | N        | PMS              | 150W                   | C   | 150                      | 150                       | 150                  | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016D | S        | N        | PMS              | 150W                   | C   | 150                      | 200                       | 200                  | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016E | S        | N        | PMS              | 150W                   | C   | 150                      | 250                       | 250                  | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1016F | S        | N        | PMS              | 150W                   | C   | 150                      | 300                       | 300                  | V                          | 10                           |           | 5.0A                             | 2.5   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1017  | G        | P        | MSA              | 150M                   | C   | 85                       | 30                        | 10                   | 0                          | 70                           |           | 20M                              | 2.6   | 200M                                  |         |                 | 15M       | B                       |           |       |   |
| 2N1018  | G        | P        | MSS              | 200M                   | A   | 100                      | 30                        | 6.0                  | 0                          | 70                           |           | 70M                              | 2.6   | 200M                                  |         |                 | 20M       | T                       |           |       |   |
| 2N1021  | G        | P        | LPA              | 50W                    | C   | 95                       | 100                       | 100                  | X                          | 23                           | 70        | 1.0A                             | 1.0   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1021A | G        | P        | LPA              | 150W                   | C   | 100                      | 100                       | 30                   | 0                          | 30                           | 90        | 5.0A                             | 0.5   | 5.0A                                  |         |                 | 200K      | T                       |           |       |   |
| 2N1022  | G        | P        | LPA              | 50W                    | C   | 95                       | 120                       | 120                  | X                          | 23                           | 70        | 5.0A                             | 1.0   | 5.0A                                  |         |                 |           |                         |           |       |   |
| 2N1022A | G        | P        | LPA              | 150W                   | C   | 100                      | 120                       | 55                   | 0                          | 30                           | 90        | 5.0A                             | 0.5   | 5.0A                                  |         |                 | 200K      | T                       |           |       |   |
| 2N1023  | G        | P        | RFA              | 120M                   | A   | 100                      | 40                        | 40                   | 0                          | 20                           | 175       | 1.5M                             |       |                                       |         |                 |           |                         |           |       |   |
| 2N1024  | S        | P        | AFA              | 0.25W                  | A   | 175                      | 18                        | 15                   | U                          |                              |           |                                  |       |                                       | 9.0     | E               | 1.0M      | B                       |           |       |   |
| 2N1025  | S        | P        | AFA              | 0.25W                  | A   | 175                      | 40                        | 35                   | U                          |                              |           |                                  |       |                                       | 9.0     | E               | 1.0M      | B                       |           |       |   |
| 2N1026  | S        | P        | AFA              | 0.25W                  | A   | 175                      | 40                        | 35                   | U                          |                              |           |                                  |       |                                       | 18      | E               | 2.0M      | B                       |           |       |   |
| 2N1027  | S        | P        | AFA              | 0.25W                  | A   | 175                      | 18                        | 15                   | U                          |                              |           |                                  |       |                                       | 18      | E               | 4.0M      | B                       |           |       |   |
| 2N1028  | S        | P        | AFA              | 0.25W                  | A   | 175                      | 12                        | 10                   | U                          |                              |           |                                  |       |                                       | 9.0     | E               | 7.2M      | T                       |           |       |   |
| 2N1029  | G        | P        | LPA              | 90W                    | C   | 100                      | 50                        | 20                   | 0                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1029A | G        | P        | LPA              | 90W                    | C   | 100                      | 60                        | 30                   | 0                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1029B | G        | P        | LPA              | 90W                    | C   | 100                      | 90                        | 60                   | 0                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1029C | G        | P        | LPA              | 90W                    | C   | 100                      | 100                       | 70                   | 0                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1030  | G        | P        | LPA              | 90W                    | C   | 100                      | 50                        | 20                   | 0                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1030A | G        | P        | LPA              | 90W                    | C   | 100                      | 60                        | 30                   | 0                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1030B | G        | P        | LPA              | 90W                    | C   | 100                      | 90                        | 60                   | 0                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1030C | G        | P        | LPA              | 90W                    | C   | 100                      | 100                       | 70                   | 0                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 |           |                         |           |       |   |
| 2N1031  | G        | P        | LPA              | 90W                    | C   | 100                      | 50                        | 30                   | S                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 | 2.0K      | E                       |           |       |   |
| 2N1031A | G        | P        | LPA              | 90W                    | C   | 100                      | 60                        | 40                   | S                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 | 2.0K      | E                       |           |       |   |
| 2N1031B | G        | P        | LPA              | 90W                    | C   | 100                      | 90                        | 70                   | S                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 | 2.0K      | E                       |           |       |   |
| 2N1031C | G        | P        | LPA              | 90W                    | C   | 100                      | 100                       | 80                   | S                          | 20                           | 60        | 10A                              | 1.0   | 10A                                   |         |                 | 2.0K      | E                       |           |       |   |
| 2N1032  | G        | P        | LPA              | 90W                    | C   | 100                      | 50                        | 30                   | S                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 | 25        | E                       |           |       |   |
| 2N1032A | G        | P        | LPA              | 90W                    | C   | 100                      | 60                        | 40                   | S                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 | 25        | E                       |           |       |   |
| 2N1032B | G        | P        | LPA              | 90W                    | C   | 100                      | 90                        | 70                   | S                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 | 25        | E                       |           |       |   |
| 2N1032C | G        | P        | LPA              | 90W                    | C   | 100                      | 100                       | 80                   | S                          | 50                           | 100       | 10A                              | 1.0   | 10A                                   |         |                 | 25        | E                       |           |       |   |
| 2N1034  | S        | P        | AFA              | 250M                   | A   | 160                      | 50                        | 40                   | 0                          |                              |           |                                  | 0.5   | 8.0M                                  | 9.0     | E               | 150K      | B                       |           |       |   |
| 2N1035  | S        | P        | AFA              | 250M                   | A   | 160                      | 50                        | 35                   | 0                          |                              |           |                                  | 0.4   | 8.0M                                  | 18      | E               | 200K      | B                       |           |       |   |
| 2N1036  | S        | P        | AFA              | 250M                   | A   | 160                      | 50                        | 30                   | 0                          |                              |           |                                  | 0.3   | 8.0M                                  | 34      | E               | 300K      | B                       |           |       |   |
| 2N1037  | S        | P        | AFA              | 250M                   | A   | 160                      | 50                        | 35                   | 0                          |                              |           |                                  | 0.5   | 8.0M                                  | 9.0     | E               | 150K      | B                       |           |       |   |
| 2N1038  | G        | P        | LPA              | 20W                    | C   | 95                       | 40                        | 40                   | V                          | 20                           | 60        | 1.0A                             | 0.25  | 1.0A                                  |         |                 | 18        | E                       |           |       |   |
| 2N1039  | G        | P        | LPA              | 20W                    | C   | 95                       | 60                        | 60                   | V                          | 20                           | 60        | 1.0A                             | 0.25  | 1.0A                                  |         |                 | 18        | E                       |           |       |   |
| 2N1040  | G        | P        | LPA              | 20W                    | C   | 95                       | 80                        | 80                   | V                          | 20                           | 60        | 1.0A                             | 0.25  | 1.0A                                  |         |                 | 18        | E                       |           |       |   |
| 2N1041  | G        | P        | LPA              | 20W                    | C   | 95                       | 100                       | 100                  | V                          | 20                           | 60        | 1.0A                             | 0.25  | 1.0A                                  |         |                 | 18        | E                       |           |       |   |
| 2N1042  | G        | P        | LPA              | 20W                    | C   | 100                      | 40                        | 40                   | V                          | 20                           | 60        | 3.0A                             | 0.75  | 3.0A                                  |         |                 | 2.0       | E                       |           |       |   |
| 2N1043  | G        | P        | LPA              | 20W                    | C   | 100                      | 60                        | 60                   | V                          | 20                           | 60        | 3.0A                             | 0.25  | 1.0A                                  |         |                 |           |                         |           |       |   |
| 2N1044  | G        | P        | LPA              | 20W                    | C   | 100                      | 80                        | 80                   | V                          | 20                           | 60        | 3.0A                             | 0.25  | 1.0A                                  |         |                 |           |                         |           |       |   |
| 2N1045  | G        | P        | LPA              | 20W                    | C   | 100                      | 100                       | 100                  | V                          | 20                           | 60        | 3.0A                             | 0.25  | 1.0A                                  |         |                 |           |                         |           |       |   |
| 2N1046  | G        | P        | HPA              | 50W                    | C   | 100                      | 100                       | 50                   | 0                          | 40                           |           | 5.0A                             | 0.2   | 500M                                  |         |                 | 15M       | T                       |           |       |   |
| 2N1046A | G        | P        | HPA              | 50W                    | C   | 100                      | 130                       | 50                   | 0                          | 40                           |           | 5.0A                             | 0.4   | 5.0A                                  |         |                 | 15M       | T                       |           |       |   |
| 2N1046B | G        | P        | HPA              |                        |     |                          |                           |                      |                            |                              |           |                                  |       |                                       |         |                 |           |                         |           |       |   |