

# TO-92 Plastic Package Transistors (NPN)

| Maximum Ratings |                             |                             |                             |                                 |                    | Electrical Characteristics (Ta=25°C, Unless Otherwise Specified) |                       |                              |                       |                                               |                     |                                 |                                 |                       |                             |                             |          |                     |                              |                            |              |                             |                 |         |
|-----------------|-----------------------------|-----------------------------|-----------------------------|---------------------------------|--------------------|------------------------------------------------------------------|-----------------------|------------------------------|-----------------------|-----------------------------------------------|---------------------|---------------------------------|---------------------------------|-----------------------|-----------------------------|-----------------------------|----------|---------------------|------------------------------|----------------------------|--------------|-----------------------------|-----------------|---------|
| Type No.        | V <sub>CBO</sub> (V)<br>Min | V <sub>CEO</sub> (V)<br>Min | V <sub>EB0</sub> (V)<br>Min | P <sub>D</sub> (W)<br>@ Tc=25°C | I <sub>C</sub> (A) | I <sub>CBO</sub> (μA)<br>Max                                     | V <sub>CB</sub> @ (V) | I <sub>CES</sub> (μA)<br>Max | V <sub>CE</sub> @ (V) | h <sub>FE</sub> @<br>I <sub>C</sub> &<br>(mA) | V <sub>CE</sub> (V) | V <sub>CE(SAT)</sub> (V)<br>Max | V <sub>BE(SAT)</sub> (V)<br>Max | I <sub>C</sub> @ (mA) | C <sub>ob</sub> (pF)<br>Typ | f <sub>t</sub> (MHz)<br>Min | @<br>Typ | I <sub>C</sub> (mA) | t <sub>off</sub> (ns)<br>Max | N <sub>F</sub> (dB)<br>Max | @ Freq (MHz) | C <sub>ob</sub> (pF)<br>Max | CDIL Case Style |         |
| BC449A          | 100                         | 100                         | 5                           | 0.625                           | 0.3                | 0.1                                                              | 80                    |                              |                       | 120 220 2 5<br>100 10 5<br>60 100 5           |                     | 0.25                            |                                 | 100                   |                             | 100                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC449B          | 100                         | 100                         | 5                           | 0.625                           | 0.3                | 0.1                                                              | 80                    |                              |                       | 180 460 2 5<br>160 10 5<br>90 100 5           |                     | 0.25                            |                                 | 100                   |                             | 100                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC451C          | 50                          | 45                          | 6                           | 0.35                            | 0.1                | .015                                                             | 50                    |                              |                       | 450 800 5 2                                   |                     | 0.2<br>0.6                      |                                 | 10<br>100             | 4.5                         | 150                         |          | 10                  |                              | 10                         |              |                             |                 | TO-92-4 |
| BC485           | 45                          | 45                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 30                    |                              |                       | 15 1000 5<br>40 10 2<br>60 400 100 2          |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC485A          | 45                          | 45                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 30                    |                              |                       | 40 10 2<br>100 250 100 2<br>15 1000 5         |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC485B          | 45                          | 45                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 30                    |                              |                       | 40 10 2<br>160 400 100 2<br>15 1000 5         |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC485L          | 45                          | 45                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 30                    |                              |                       | 40 10 2<br>60 150 100 2<br>15 1000 5          |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC487           | 60                          | 60                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 40                    |                              |                       | 40 10 2<br>60 400 100 2<br>15 1000 5          |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC487A          | 60                          | 60                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 40                    |                              |                       | 40 10 2<br>100 250 100 2<br>15 1000 5         |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC487B          | 60                          | 60                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 40                    |                              |                       | 40 10 2<br>160 400 100 2<br>15 1000 5         |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC487L          | 60                          | 60                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 40                    |                              |                       | 40 10 2<br>60 150 100 2<br>15 1000 5          |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC489           | 80                          | 80                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 60                    |                              |                       | 40 10 2<br>60 400 100 2<br>15 1000 5          |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC489A          | 80                          | 80                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 60                    |                              |                       | 40 10 2<br>100 250 100 2<br>15 1000 5         |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC489B          | 80                          | 80                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 60                    |                              |                       | 40 10 2<br>160 400 100 2<br>15 1000 5         |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC489L          | 80                          | 80                          | 5                           | 0.625                           | 1                  | 0.1                                                              | 60                    |                              |                       | 40 10 2<br>60 150 100 2<br>15 1000 5          |                     | 0.5                             | 1.2                             | 500                   | 7                           | 200                         |          | 50                  |                              |                            |              |                             |                 | TO-92-4 |
| BC546           | 80                          | 65                          | 6                           | 0.5                             | 0.1                |                                                                  |                       | 0.015                        | 70                    | 110 450 2 5                                   |                     | 0.25<br>0.6                     |                                 | 10<br>100             | 1.7 4.5                     | 150 300                     |          | 10                  |                              | 10                         | 0.001        |                             |                 | TO-92-4 |
| BC546A          | 80                          | 65                          | 6                           | 0.5                             | 0.1                |                                                                  |                       | 0.015                        | 70                    | 110 220 2 5                                   |                     | 0.25<br>0.6                     |                                 | 10<br>100             | 1.7 4.5                     | 150 300                     |          | 10                  |                              | 10                         | 0.001        |                             |                 | TO-92-4 |
| BC546B          | 80                          | 65                          | 6                           | 0.5                             | 0.1                |                                                                  |                       | 0.015                        | 70                    | 200 450 2 5                                   |                     | 0.25<br>0.6                     |                                 | 10<br>100             | 1.7 4.5                     | 150 300                     |          | 10                  |                              | 10                         | 0.001        |                             |                 | TO-92-4 |