

# E-LINE TRANSISTORS

**TABLE 5: HIGH PERFORMANCE E-LINE TRANSISTORS (P<sub>D</sub>=1 Watt)**

The transistors shown in this table have been designed to operate and provide useful gain at current levels up to 1 Amp with power dissipation capabilities of 1 Watt at 25°C ambient temperature. Typical application areas include audio frequency drivers and output stages, relay drivers etc.

| PART NO.   | V <sub>CBO</sub><br>V | V <sub>CEO</sub><br>V | I <sub>C</sub><br>A | I <sub>CM</sub><br>A | V <sub>CE(sat)</sub><br>max @<br>V | I <sub>C</sub><br>mA |                | h <sub>FE</sub><br>min @ | V <sub>CE</sub><br>V |                 | h <sub>FE</sub><br>min @ | I <sub>C</sub><br>A |                 | V <sub>CE</sub><br>V | f <sub>T</sub><br>min @<br>MHz | I <sub>C</sub><br>mA | PIN<br>OUT<br>123 |
|------------|-----------------------|-----------------------|---------------------|----------------------|------------------------------------|----------------------|----------------|--------------------------|----------------------|-----------------|--------------------------|---------------------|-----------------|----------------------|--------------------------------|----------------------|-------------------|
|            |                       |                       |                     |                      |                                    | I <sub>C</sub>       | I <sub>B</sub> |                          | I <sub>C</sub>       | V <sub>CE</sub> |                          | I <sub>C</sub>      | V <sub>CE</sub> |                      |                                |                      |                   |
| <b>NPN</b> |                       |                       |                     |                      |                                    |                      |                |                          |                      |                 |                          |                     |                 |                      |                                |                      |                   |
| ZTX458     | 400                   | 400                   | 0.3                 | 0.5                  | 0.5                                | 50                   | 6              | 100                      | 50                   | 10              | 15                       | 0.1                 | 10              | 50                   | 10                             | CBE                  |                   |
| ZTX457     | 300                   | 300                   | 0.5                 | 1                    | 0.3                                | 100                  | 10             | 50                       | 50                   | 10              | 25                       | 0.1                 | 10              | 75                   | 50                             | CBE                  |                   |
| ZTX456     | 200                   | 200                   | 0.5                 | 1                    | 0.3                                | 100                  | 10             | 50                       | 50                   | 10              | 25                       | 0.1                 | 10              | 75                   | 50                             | CBE                  |                   |
| ZTX455     | 160                   | 140                   | 1                   | 2                    | 0.7                                | 150                  | 15             | 100                      | 150                  | 10              | 10 <sup>#</sup>          | 1                   | 10              | 100                  | 50                             | CBE                  |                   |
| FXT455     | 160                   | 140                   | 1                   | 2                    | 0.7                                | 150                  | 15             | 100                      | 150                  | 10              | 10 <sup>#</sup>          | 1                   | 10              | 100                  | 50                             | BCE                  |                   |
| ZTX454     | 140                   | 120                   | 1                   | 2                    | 0.7                                | 150                  | 15             | 100                      | 150                  | 10              | 30                       | 0.2                 | 1               | 100                  | 50                             | CBE                  |                   |
| ZTX453     | 120                   | 100                   | 1                   | 2                    | 0.7                                | 150                  | 15             | 40                       | 150                  | 10              | 10                       | 1                   | 10              | 150                  | 50                             | CBE                  |                   |
| FXT453     | 120                   | 100                   | 1                   | 2                    | 0.7                                | 150                  | 15             | 40                       | 150                  | 10              | 10                       | 1                   | 10              | 150                  | 50                             | BCE                  |                   |
| ZTX452     | 100                   | 80                    | 1                   | 2                    | 0.7                                | 150                  | 15             | 40                       | 150                  | 10              | 10                       | 1                   | 10              | 150                  | 50                             | CBE                  |                   |
| ZTX451     | 80                    | 60                    | 1                   | 2                    | 0.35                               | 150                  | 15             | 50                       | 150                  | 10              | 10                       | 1                   | 10              | 150                  | 50                             | CBE                  |                   |
| FXT451     | 80                    | 60                    | 1                   | 2                    | 0.35                               | 150                  | 15             | 50                       | 150                  | 10              | 10                       | 1                   | 10              | 150                  | 50                             | BCE                  |                   |
| ZTX450     | 60                    | 45                    | 1                   | 2                    | 0.25                               | 150                  | 15             | 100                      | 150                  | 10              | 15                       | 1                   | 10              | 150                  | 50                             | CBE                  |                   |
| FXT450     | 60                    | 45                    | 1                   | 2                    | 0.25                               | 150                  | 15             | 100                      | 150                  | 10              | 15                       | 1                   | 10              | 150                  | 50                             | BCE                  |                   |
| ZTX449     | 50                    | 30                    | 1                   | 2                    | 0.5                                | 1000                 | 100            | 100                      | 500                  | 2               | 40                       | 2                   | 2               | 150                  | 50                             | CBE                  |                   |
| FXT449     | 50                    | 30                    | 1                   | 2                    | 0.5                                | 1000                 | 100            | 100                      | 500                  | 2               | 40                       | 2                   | 2               | 150                  | 50                             | BCE                  |                   |
| <b>PNP</b> |                       |                       |                     |                      |                                    |                      |                |                          |                      |                 |                          |                     |                 |                      |                                |                      |                   |
| ZTX558     | -400                  | -400                  | -0.2                | -0.5                 | -0.5                               | -50                  | -6             | 100                      | -50                  | -10             | 15                       | -0.1                | -10             | 50                   | -10                            | CBE                  |                   |
| ZTX557     | -300                  | -300                  | -0.5                | -1                   | -0.3                               | -50                  | -5             | 50                       | -10                  | -10             | 50                       | -0.05               | -10             | 75                   | -50                            | CBE                  |                   |
| FXT557     | -300                  | -300                  | -0.5                | -1                   | -0.3                               | -50                  | -5             | 50                       | -10                  | -10             | 50                       | -0.05               | -10             | 75                   | -50                            | BCE                  |                   |
| ZTX576     | -200                  | -200                  | -1                  | -2                   | -0.3                               | -100                 | -10            | 50                       | -10                  | -10             | 50                       | -0.3                | -10             | 100                  | -50                            | CBE                  |                   |
| ZTX556     | -200                  | -200                  | -0.5                | -1                   | -0.3                               | -50                  | -5             | 50                       | -10                  | -10             | 50                       | -0.05               | -10             | 75                   | -50                            | CBE                  |                   |
| ZTX555     | -160                  | -150                  | -1                  | -2                   | -0.3                               | -100                 | -10            | 50                       | -10                  | -10             | 50                       | -0.3                | -10             | 100                  | -50                            | CBE                  |                   |
| FXT555     | -160                  | -150                  | -1                  | -2                   | -0.3                               | -100                 | -10            | 50                       | -10                  | -10             | 50                       | -0.3                | -10             | 100                  | -50                            | BCE                  |                   |
| ZTX554     | -140                  | -125                  | -1                  | -2                   | -0.3                               | -100                 | -10            | 50                       | -10                  | -10             | 50                       | -0.3                | -10             | 100                  | -50                            | CBE                  |                   |
| ZTX553     | -120                  | -100                  | -1                  | -2                   | -0.25                              | -150                 | -15            | 40                       | -150                 | -10             | 10                       | -1                  | -10             | 150                  | -50                            | CBE                  |                   |
| FXT553     | -120                  | -100                  | -1                  | -2                   | -0.25                              | -150                 | -15            | 40                       | -150                 | -10             | 10                       | -1                  | -10             | 150                  | -50                            | BCE                  |                   |
| ZTX552     | -100                  | -80                   | -1                  | -2                   | -0.25                              | -150                 | -15            | 40                       | -150                 | -10             | 10                       | -1                  | -10             | 150                  | -50                            | CBE                  |                   |
| ZTX551     | -80                   | -60                   | -1                  | -2                   | -0.35                              | -150                 | -15            | 50                       | -150                 | -10             | 10                       | -1                  | -10             | 150                  | -50                            | CBE                  |                   |
| FXT551     | -80                   | -60                   | -1                  | -2                   | -0.35                              | -150                 | -15            | 50                       | -150                 | -10             | 10                       | -1                  | -10             | 150                  | -50                            | BCE                  |                   |
| ZTX550     | -60                   | -45                   | -1                  | -2                   | -0.25                              | -150                 | -15            | 100                      | -150                 | -10             | 15                       | -1                  | -10             | 150                  | -50                            | CBE                  |                   |
| FXT550     | -60                   | -45                   | -1                  | -2                   | -0.25                              | -150                 | -15            | 100                      | -150                 | -10             | 15                       | -1                  | -10             | 150                  | -50                            | BCE                  |                   |
| ZTX549A    | -35                   | -30                   | -1                  | -2                   | -0.5                               | -1000                | -100           | 150                      | -500                 | -2              | 40                       | -2                  | -2              | 100                  | -100                           | CBE                  |                   |
| ZTX549     | -35                   | -30                   | -1                  | -2                   | -0.5                               | -1000                | -100           | 100                      | -500                 | -2              | 40                       | -2                  | -2              | 100                  | -100                           | CBE                  |                   |
| FXT549     | -35                   | -30                   | -1                  | -2                   | -0.5                               | -1000                | -100           | 100                      | -500                 | -2              | 40                       | -2                  | -2              | 100                  | -100                           | BCE                  |                   |

#Typical Values

**TABLE 6: MEDIUM POWER TRANSISTORS**

General purpose transistors designed for amplification from d.c. to radio frequencies.

| PART NO.   | V <sub>CBO</sub><br>V | V <sub>CEO</sub><br>V | I <sub>C</sub><br>A | V <sub>CE(sat)</sub><br>max @<br>V | I <sub>C</sub><br>mA |                | h <sub>FE</sub><br>min @ | V <sub>CE</sub><br>V |                 | h <sub>FE</sub><br>min @ | I <sub>C</sub><br>mA |                 | V <sub>CE</sub><br>V | f <sub>T</sub><br>min @<br>MHz | I <sub>C</sub><br>mA | PIN<br>OUT<br>123 |
|------------|-----------------------|-----------------------|---------------------|------------------------------------|----------------------|----------------|--------------------------|----------------------|-----------------|--------------------------|----------------------|-----------------|----------------------|--------------------------------|----------------------|-------------------|
|            |                       |                       |                     |                                    | I <sub>C</sub>       | I <sub>B</sub> |                          | I <sub>C</sub>       | V <sub>CE</sub> |                          | I <sub>C</sub>       | V <sub>CE</sub> |                      |                                |                      |                   |
| <b>NPN</b> |                       |                       |                     |                                    |                      |                |                          |                      |                 |                          |                      |                 |                      |                                |                      |                   |
| 2N6718     | 100                   | 80                    | 1                   | 0.35                               | 250                  | 25             | 50                       | 250                  | 1               | 20                       | 500                  | 1               | 50                   | 50                             | CBE                  |                   |
| 2N6731     | 100                   | 100                   | 1                   | 0.35                               | 350                  | 35             | 100                      | 10                   | 2               | 100                      | 350                  | 2               | 50                   | 200                            | CBE                  |                   |
| 2N6717     | 80                    | 80                    | 1                   | 0.35                               | 250                  | 25             | 50                       | 250                  | 1               | 20                       | 500                  | 1               | 50                   | 50                             | CBE                  |                   |
| MPSA06     | 80                    | 80                    | 0.5                 | 0.25                               | 100                  | 10             | 50                       | 10                   | 1               | 50                       | 100                  | 1               | 100                  | 10                             | CBE                  |                   |
| 2N6716     | 60                    | 60                    | 1                   | 0.35                               | 250                  | 25             | 50                       | 250                  | 1               | 20                       | 500                  | 1               | 50                   | 50                             | CBE                  |                   |
| ZTX337C    | 50                    | 45                    | 0.8                 | 0.7                                | 500                  | 50             | 250                      | 100                  | 1               | 170                      | 300                  | 1               | 200 <sup>#</sup>     | 10                             | CBE                  |                   |
| 2N6715     | 50                    | 40                    | 1                   | 0.5                                | 1000                 | 100            | 60                       | 100                  | 1               | 50                       | 1000                 | 1               | 50                   | 50                             | CBE                  |                   |
| 2N6714     | 40                    | 30                    | 1                   | 0.5                                | 1000                 | 100            | 60                       | 100                  | 1               | 50                       | 1000                 | 1               | 50                   | 50                             | CBE                  |                   |
| <b>PNP</b> |                       |                       |                     |                                    |                      |                |                          |                      |                 |                          |                      |                 |                      |                                |                      |                   |
| 2N6730     | -100                  | -100                  | -1                  | -0.35                              | -250                 | -25            | 50                       | -250                 | -1              | 20                       | -500                 | -1              | 50                   | -50                            | CBE                  |                   |
| 2N6732     | -100                  | -80                   | -1                  | -0.35                              | -350                 | -35            | 100                      | -10                  | -2              | 100                      | -350                 | -2              | 50                   | -200                           | CBE                  |                   |
| 2N6729     | -80                   | -80                   | -1                  | -0.35                              | -250                 | -25            | 50                       | -250                 | -1              | 20                       | -500                 | -1              | 50                   | -50                            | CBE                  |                   |
| MPSA56     | -80                   | -80                   | -0.5                | -0.25                              | -100                 | -10            | 50                       | -10                  | -1              | 50                       | -100                 | -1              | 100                  | -10                            | CBE                  |                   |
| 2N6728     | -60                   | -60                   | -1                  | -0.35                              | -250                 | -25            | 50                       | -250                 | -1              | 20                       | -500                 | -1              | 50                   | -50                            | CBE                  |                   |
| ZTX537C    | -50                   | -45                   | -0.8                | -0.7                               | -500                 | -50            | 250                      | -100                 | -1              | 170                      | -300                 | -1              | 200 <sup>#</sup>     | -10                            | CBE                  |                   |
| 2N6727     | -50                   | -40                   | -1                  | -0.5                               | -1000                | -100           | 60                       | -100                 | -1              | 50                       | -1000                | -1              | 50                   | -50                            | CBE                  |                   |
| 2N6726     | -40                   | -30                   | -1                  | -0.5                               | -1000                | -100           | 60                       | -100                 | -1              | 50                       | -1000                | -1              | 50                   | -50                            | CBE                  |                   |

#Typical Values