

## TABLE 7 : NPN/PNP MEDIUM POWER

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 1000 mW at 25°C ambient temperature. Typical application areas include: Audio Frequency Drivers and Output Stages, Relay Switching, etc.

| Type       | V <sub>CB0</sub><br>V | V <sub>CEO</sub><br>V | Max<br>I <sub>C</sub><br>mA | Max V <sub>CE(sat)</sub><br>at |                      |                      | h <sub>FE</sub><br>at |     |                      | Min f <sub>T</sub><br>at |                      | P <sub>tot</sub><br>at<br>T <sub>amb</sub><br>= 25°C<br>mW | Complement |
|------------|-----------------------|-----------------------|-----------------------------|--------------------------------|----------------------|----------------------|-----------------------|-----|----------------------|--------------------------|----------------------|--|------------|
|            |                       |                       |                             | V                              | I <sub>C</sub><br>mA | I <sub>B</sub><br>mA | Min                   | Max | I <sub>C</sub><br>mA | MHz                      | I <sub>C</sub><br>mA |  |            |
| <b>NPN</b> |                       |                       |                             |                                |                      |                      |                       |     |                      |                          |                      |  |            |
| ZTX455§    | 160                   | 140                   | 1000                        | 0.7                            | 150                  | 15                   | 100                   | 300 | 150                  | 100                      | 50                   | 1000   | ZTX555     |
| ZTX454     | 140                   | 120                   | 1000                        | 0.7                            | 150                  | 15                   | 100                   | 300 | 150                  | 100                      | 50                   | 1000   | ZTX554     |
| ZTX453§    | 120                   | 100                   | 1000                        | 0.7                            | 150                  | 15                   | 40                    | 200 | 150                  | 150                      | 50                   | 1000   | ZTX553     |
| ZTX452     | 100                   | 80                    | 1000                        | 0.7                            | 150                  | 15                   | 40                    | 150 | 150                  | 150                      | 50                   | 1000   | ZTX552     |
| MPSA06     | 80                    | 80                    | 500                         | 0.25                           | 100                  | 10                   | 50                    | —   | 100                  | 100                      | 10                   | 750  | MPSA56     |
| ZTX451§    | 80                    | 60                    | 1000                        | 0.35                           | 150                  | 15                   | 50                    | 150 | 150                  | 150                      | 50                   | 1000   | ZTX551     |
| BFS61      | 80                    | 60                    | 1000                        | 0.35                           | 150                  | 15                   | 40                    | 160 | 150                  | 150                      | 50                   | 500  | BFS98      |
| MPSA05     | 60                    | 60                    | 500                         | 0.25                           | 100                  | 10                   | 50                    | —   | 100                  | 100                      | 10                   | 750  | MPSA55     |
| ZTX450§    | 60                    | 45                    | 1000                        | 0.25                           | 150                  | 15                   | 100                   | 300 | 150                  | 50                       | 50                   | 1000   | ZTX550     |
| BFS60      | 60                    | 40                    | 1000                        | 0.25                           | 150                  | 15                   | 100                   | 300 | 150                  | 150                      | 50                   | 500  | BFS97      |
| BFS59      | 60                    | 30                    | 1000                        | 0.35                           | 150                  | 15                   | 40                    | 300 | 150                  | 150                      | 50                   | 500  | BFS96      |
| ZTX337     | 50                    | 45                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 200*                     | 10                   | 750  | ZTX537     |
| BC337P     | 50                    | 45                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 100                      | 10                   | 625  | BC327P     |
| ZTX449§    | 50                    | 30                    | 1000                        | 0.5                            | 1000                 | 100                  | 100                   | 300 | 500                  | 150                      | 50                   | 1000   | ZTX549     |
| ZTX338     | 30                    | 25                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 200*                     | 10                   | 750  | ZTX538     |
| BC338P     | 30                    | 25                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 100                      | 10                   | 625  | BC328P     |
| <b>PNP</b> |                       |                       |                             |                                |                      |                      |                       |     |                      |                          |                      |  |            |
| ZTX557§    | 300                   | 300                   | 500                         | 0.3                            | 50                   | 5                    | 50                    | 300 | 50                   | 75                       | 50                   | 1000   | —          |
| ZTX556     | 200                   | 200                   | 500                         | 0.3                            | 50                   | 5                    | 50                    | 300 | 50                   | 75                       | 50                   | 1000   | —          |
| ZTX555§    | 160                   | 150                   | 1000                        | 0.3                            | 100                  | 10                   | 50                    | 300 | 300                  | 100                      | 50                   | 1000   | ZTX455     |
| ZTX554     | 140                   | 125                   | 1000                        | 0.3                            | 100                  | 10                   | 50                    | 300 | 300                  | 100                      | 50                   | 1000   | ZTX454     |
| ZTX553§    | 120                   | 100                   | 1000                        | 0.7                            | 150                  | 15                   | 40                    | 200 | 150                  | 150                      | 50                   | 1000   | ZTX453     |
| ZTX552     | 100                   | 80                    | 1000                        | 0.7                            | 150                  | 15                   | 40                    | 150 | 150                  | 150                      | 50                   | 1000   | ZTX452     |
| MPSA56     | 80                    | 80                    | 500                         | 0.25                           | 100                  | 10                   | 50                    | —   | 100                  | 100                      | 10                   | 750  | MPSA06     |
| ZTX551§    | 80                    | 60                    | 1000                        | 0.35                           | 150                  | 15                   | 50                    | 150 | 150                  | 150                      | 50                   | 1000   | ZTX451     |
| BFS98      | 80                    | 60                    | 1000                        | 0.35                           | 150                  | 15                   | 40                    | 160 | 150                  | 150                      | 50                   | 500  | BFS61      |
| MPSA55     | 60                    | 60                    | 500                         | 0.25                           | 100                  | 10                   | 50                    | —   | 100                  | 100                      | 10                   | 750  | MPSA05     |
| ZTX550§    | 60                    | 45                    | 1000                        | 0.25                           | 150                  | 15                   | 100                   | 300 | 150                  | 150                      | 50                   | 1000   | ZTX450     |
| BFS97      | 60                    | 40                    | 1000                        | 0.265                          | 150                  | 15                   | 100                   | 300 | 150                  | 150                      | 50                   | 500  | BFS61      |
| BFS96      | 60                    | 30                    | 1000                        | 0.35                           | 150                  | 165                  | 40                    | 300 | 150                  | 150                      | 50                   | 500  | BFS59      |
| ZTX537     | 50                    | 45                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 200*                     | 10                   | 750  | ZTX337     |
| BC327P     | 50                    | 45                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 100                      | 10                   | 625  | BC337P     |
| ZTX549§    | 35                    | 25                    | 1000                        | 0.5                            | 1000                 | 100                  | 100                   | 300 | 500                  | 100                      | 100                  | 1000   | ZTX449     |
| ZTX538     | 30                    | 25                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 200*                     | 10                   | 750  | ZTX338     |
| BC328P     | 30                    | 25                    | 800                         | 0.7                            | 500                  | 50                   | 100                   | 630 | 100                  | 100                      | 10                   | 625  | BC338P     |

\* Typical.

§ Also available with centre collector lead form option. See centre collector section for details.