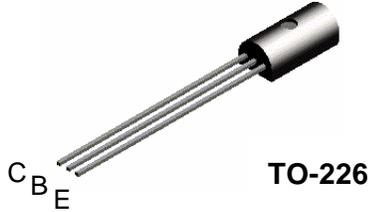


**TN6727A**



**PNP General Purpose Amplifier**

This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1A. Sourced from Process 77. See TN6726A for characteristics.

**Absolute Maximum Ratings\*** T<sub>A</sub> = 25°C unless otherwise noted

| Symbol               | Parameter  | Value       | Units |
|----------------------|--|-------------|-------|
| V <sub>CES</sub>     | Collector-Emitter Voltage                        | 40          | V     |
| V <sub>CBO</sub>     | Collector-Base Voltage                           | 50          | V     |
| V <sub>EBO</sub>     | Emitter-Base Voltage                             | 5           | V     |
| I <sub>C</sub>       | Collector Current - Continuous                   | 1.5         | A     |
| T <sub>J, Tstg</sub> | Operating and Storage Junction Temperature Range | -55 to +150 | °C    |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**NOTES:**

- 1) These ratings are based on a maximum junction temperature of 150°C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

**Thermal Characteristics** T<sub>A</sub> = 25°C unless otherwise noted

| Symbol           | Characteristic                                | Max     | Units |
|------------------|---|---------|-------|
|                  |   | TN6727A |       |
| P <sub>D</sub>   | Total Device Dissipation<br>Derate above 25°C | 1       | W     |
|                  |   | 8       |       |
| R <sub>θJC</sub> | Thermal Resistance, Junction to Case          | 50      | °C/W  |
| R <sub>θJA</sub> | Thermal Resistance, Junction to Ambient       | 125     | °C/W  |

**PNP General Purpose Amplifier**

(continued)

**Electrical Characteristics**

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol                              | Parameter                            | Test Conditions  | Min            | Max | Units |
|-------------------------------------|--------------------------------------|--|----------------|-----|-------|
| <b>OFF CHARACTERISTICS</b>          |                                      |  |                |     |       |
| $BV_{CEO}$                          | Collector-Emitter Breakdown Voltage  | $I_C = 10 \text{ mA}$  | 40             |     | V     |
| $BV_{CBO}$                          | Collector-Base Breakdown Voltage     | $I_C = 1 \text{ mA}$   | 50             |     | V     |
| $BV_{EBO}$                          | Emitter-Base Breakdown Voltage       | $I_E = 1 \text{ mA}$   | 5              |     | V     |
| $I_{CBO}$                           | Collector Cutoff Current             | $V_{CB} = 50 \text{ V}$  |                | 100 | nA    |
| $I_{EBO}$                           | Emitter Cutoff Current               | $V_{EB} = 5 \text{ V}$   |                | 100 | nA    |
| <b>ON CHARACTERISTICS*</b>          |                                      |  |                |     |       |
| $h_{FE}$                            | DC Current Gain                      | $I_C = 10 \text{ mA}, V_{CE} = 1 \text{ V}$<br>$I_C = 100 \text{ mA}, V_{CE} = 1 \text{ V}$<br>$I_C = 1 \text{ A}, V_{CE} = 1 \text{ V}$ | 55<br>60<br>50 | 250 | -     |
| $V_{CE(sat)}$                       | Collector-Emitter Saturation Voltage | $I_C = 1 \text{ A}, I_B = 100 \text{ mA}$  |                | 0.5 | V     |
| $V_{BE(on)}$                        | Base-Emitter On Voltage              | $I_C = 1 \text{ A}, V_{CE} = 1 \text{ V}$  |                | 1.2 | V     |
| <b>SMALL SIGNAL CHARACTERISTICS</b> |                                      |  |                |     |       |
| $C_{cb}$                            | Output Capacitance                   | $V_{CB} = 10 \text{ V}, I_E = 0, f = 1\text{MHz}$  |                | 30  | pF    |
| $h_{fe}$                            | Small Signal Current Gain            | $I_C = 50 \text{ mA}, V_{CE} = 10 \text{ V}, f=20\text{MHz}$   | 2.5            | 25  | -     |

\*Pulse Test: Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle  $\leq 1.0\%$

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| CROSSVOLT™           | POP™          | UHC™       |
| E <sup>2</sup> CMOS™ | PowerTrench®  | VCX™       |
| FACT™                | QFET™         |            |
| FACT Quiet Series™   | QS™           |            |
| FAST®                | Quiet Series™ |            |
| FASTr™               | SuperSOT™-3   |            |
| GTO™                 | SuperSOT™-6   |            |
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