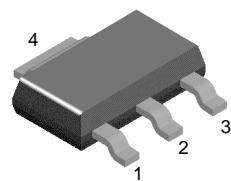


BCP51

PNP General Purpose Amplifier

- This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.0A.
- Sourced from process 77.



SOT-223

1. Base 2. Collector 3. Emitter

Absolute Maximum Ratings* $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|----------------|--|------------|------------------|
| V_{CEO} | Collector-Emitter Voltage | -45 | V |
| V_{CBO} | Collector-Base Voltage | -45 | V |
| V_{EBO} | Emitter-Base Voltage | -5.0 | V |
| I_C | Collector Current - Continuous | -1.5 | A |
| T_J, T_{STG} | Operating and Storage Junction Temperature Range | - 55 ~ 150 | $^\circ\text{C}$ |

* 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 degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|----------------------------|--------------------------------------|--|----------------|-------------|---------------------|
| Off Characteristics | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Sustaining Voltage | $I_C = -10\text{mA}, I_B = 0$ | -45 | | V |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = -100\mu\text{A}, I_E = 0$ | -45 | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E = -10\mu\text{A}, I_C = 0$ | -5.0 | | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = -30\text{V}, I_E = 0$ $V_{CB} = -30\text{V}, I_E = 0, T_a = 125^\circ\text{C}$ | | -100 -10 | nA μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = -5.0\text{V}, I_C = 0$ | | -10 | μA |
| On Characteristics | | | | | |
| h_{FE} | DC Current Gain | $I_C = -5.0\text{mA}, V_{CE} = -2.0\text{V}$ $I_C = -150\text{mA}, V_{CE} = -2.0$ $I_C = -500\text{mA}, V_{CE} = -2.0\text{V}$ | 25 40 25 | 250 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -500\text{mA}, I_B = -50\text{mA}$ | | -0.5 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C = -500\text{mA}, V_{CE} = -2.0\text{V}$ | | -1.0 | V |

Thermal Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

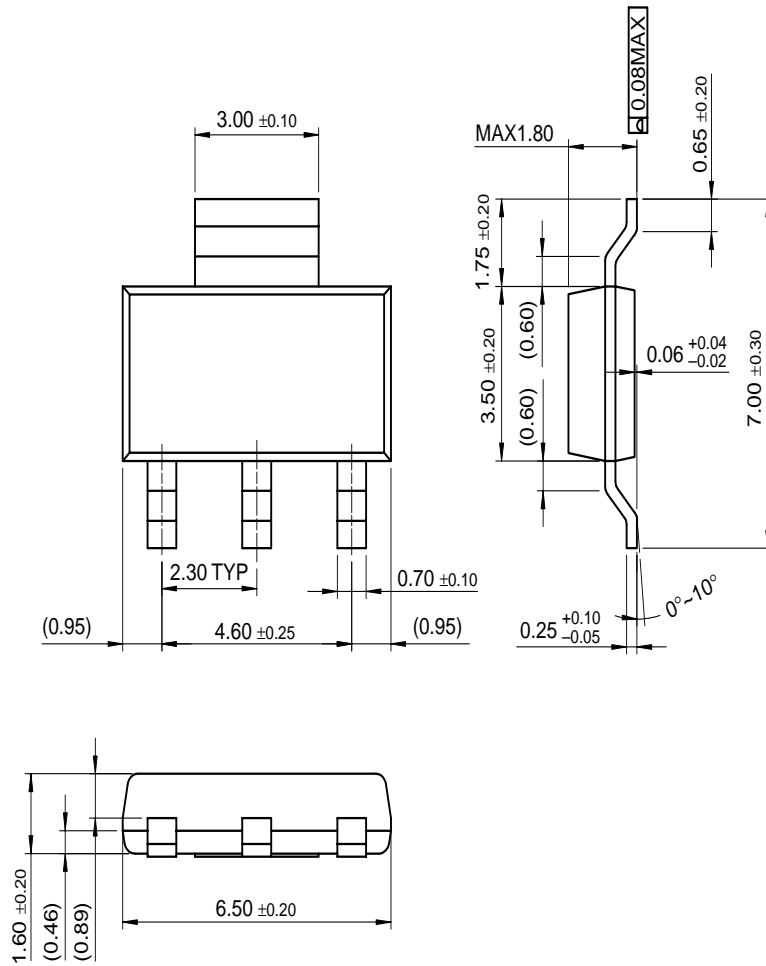
| Symbol | Parameter | Max. | Units |
|-----------------|---|------------|---------------------------------|
| P_D | Total Device Dissipation Derate above 25°C | 1.0 8.0 | W $\text{mW}/^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 125 | $^\circ\text{C}/\text{W}$ |

* Device mounted on FR-4PCB 36mm x 18mm x 1.5mm; mounting pad for the collector lead min. 6cm².

Package Dimensions

BCP51

SOT-223



Dimensions in Millimeters

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