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[BCP51](#)

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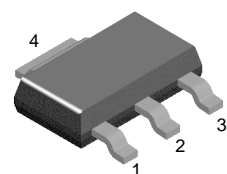
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BCP51

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:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- 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

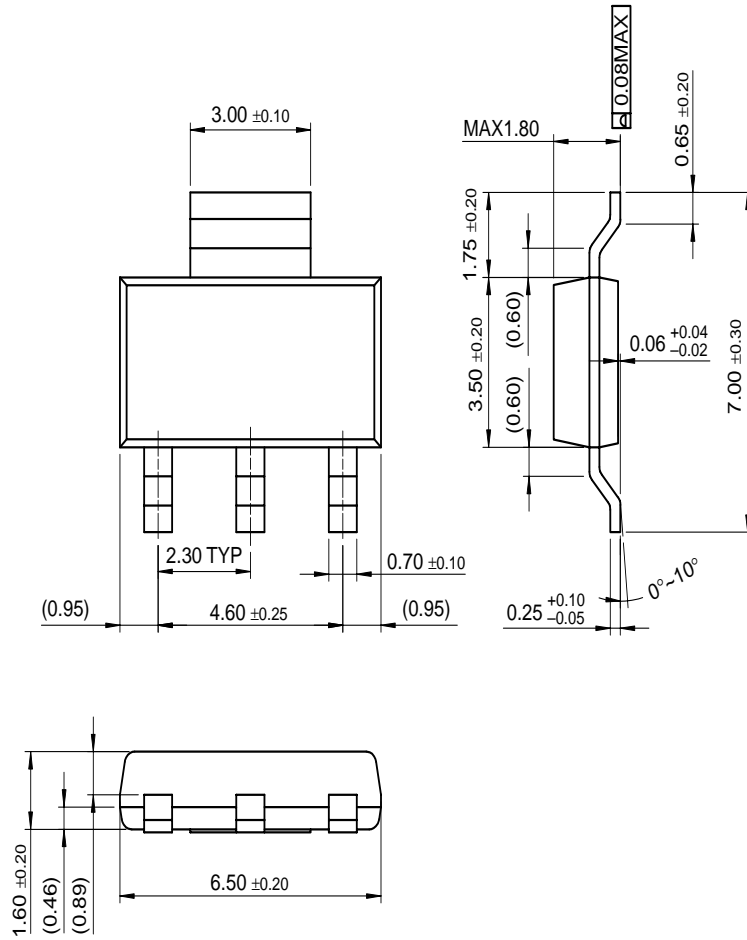
Thermal Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

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

SOT-223



Dimensions in Millimeters

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CROSSVOLT™	GlobalOptoisolator™	MicroPak™	QS™	SyncFET™
DOME™	GTO™	MICROWIRE™	QT Optoelectronics™	TinyLogic®
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