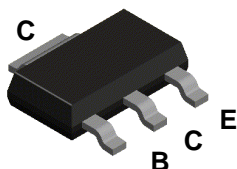


BCP56



SOT-223

NPN General Purpose Amplifier

These devices are designed for general purpose medium power amplifiers and switches requiring collector currents to 1A. Sourced from Process 39.

Absolute Maximum Ratings*

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

Symbol	Parameter	BCP56	Units
V_{CEO}	Collector-Emitter Voltage	80	V
V_{CBO}	Collector-Base Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous	1.2	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +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°C .
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

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

Symbol	Characteristic	Max	Units
		BCP56	
P_D	Total Device Dissipation Derate above 25°C	1 8	W $\text{mW}/^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	$^\circ\text{C}/\text{W}$

*Device mounted on FR-4 PCB 36 mm X 18 mm X 1.5 mm; mounting pad for the collector lead min. 6 cm^2 .

NPN General Purpose Amplifier

(continued)

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

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 10 \text{ mA}$	80		V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 100 \mu\text{A}$	100		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10 \mu\text{A}$	5		V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 30 \text{ V}$ $V_{CB} = 30 \text{ V}, T_J = +125^\circ\text{C}$		100 10	nA uA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5 \text{ V}$		10	μA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	$I_C = 5 \text{ mA}, V_{CE} = 2 \text{ V}$ $I_C = 150 \text{ mA}, V_{CE} = 2 \text{ V}$ $I_C = 500 \text{ mA}, V_{CE} = 2 \text{ V}$	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	$I_C = 500 \text{ mA}, V_{CE} = 2 \text{ V}$		1	V

*Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$

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