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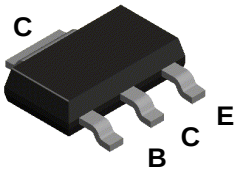
SEMICONDUCTOR TM

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* $T_{A = 25°C \text{ unless otherwise noted}}$

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	°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 $T_{A = 25°C \text{ unless otherwise noted}}$

Symbol	Characteristic	Max	Units
		BCP56	
P_D	Total Device Dissipation Derate above 25°C	1 8	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	°C/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
$T_{A = 25°C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10 mA	80		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 100 µA	100		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 10 µA	5		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 30 V V_{CB} = 30 V, T_j= +125°C		100 10	nA uA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 5V		10	µA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	I_C = 5 mA, V_{CE} = 2V I_C = 150 mA, V_{CE} = 2V I_C = 500mA, V_{CE} = 2 V	25 40 25	250	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 500 m A, I_B = 50 mA		0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = 500 m A, V_{CE} = 2 V		1	V

*Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2.0%

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