**BC369** 





# **PNP General Purpose Amplifier**

This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.2 A. Sourced from Process 77.

#### **Absolute Maximum Ratings\*** TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CEO</sub>	Collector-Emitter Voltage	20	V
V <sub>CES</sub>	Collector-Base Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	5.0	V
I <sub>C</sub>	Collector Current - Continuous	1.5	А
T <sub>J</sub> , T <sub>stg</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 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3) All voltages (V) and currents (A) are negative polarity for PNP transistors.

## Thermal Characteristics TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BC369	
P <sub>D</sub>	Total Device Dissipation	625	mW
	Derate above 25°C	5.0	mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W
R <sub>eja</sub>	Thermal Resistance, Junction to Ambient	200	°C/W

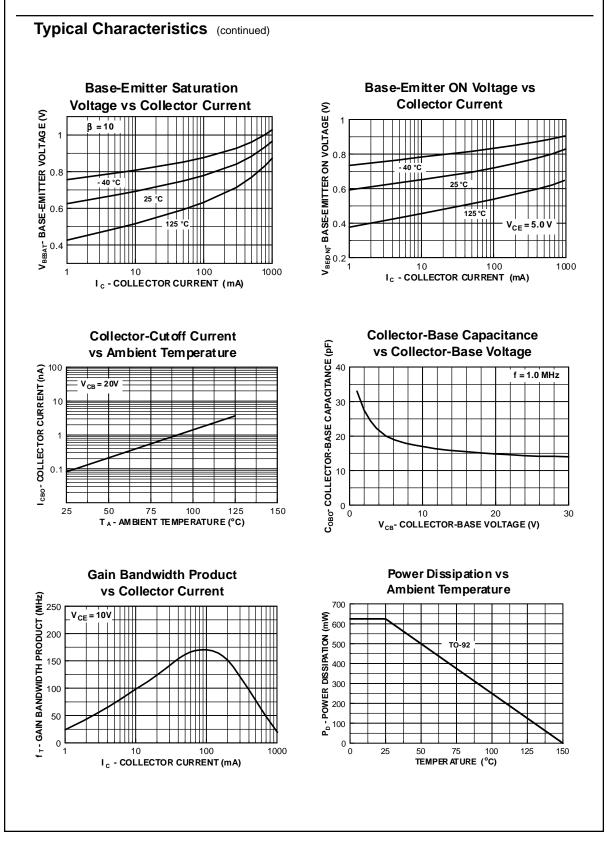
# PNP General Purpose Amplifier (continued)

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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	0 mA 0 μA ′5 5 V
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	V 0 μA 0 mA 0 μA 75 5 V 0 V
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	V 0 μA 0 mA 0 μA 75 5 V 0 V
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	V 0 μA 0 mA 0 μA 75 5 V 0 V
	0 μA 0 mA 0 μA 75 5 V 0 V
V <sub>CB</sub> = 25 V, I <sub>E</sub> = 0, T <sub>A</sub> = 150°C         1.           I <sub>EBO</sub> Emitter-Cutoff Current         V <sub>EB</sub> = 5.0 V, I <sub>C</sub> = 0         11           ON CHARACTERISTICS         I <sub>C</sub> = 5.0 mA, V <sub>CE</sub> = 10 V         50         37           h <sub>FE</sub> DC Current Gain         I <sub>C</sub> = 5.0 mA, V <sub>CE</sub> = 1.0 V         85         37           V <sub>CE(sat)</sub> Collector-Emitter Saturation Voltage         I <sub>C</sub> = 1.0 A, V <sub>CE</sub> = 1.0 V         60         7           V <sub>BE(on)</sub> Base-Emitter On Voltage         I <sub>C</sub> = 1.0 A, V <sub>CE</sub> = 1.0 V         11           SMALL SIGNAL CHARACTERISTICS         I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 5.0 V,         45           f <sub>T</sub> Current Gain - Bandwidth Product         I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 5.0 V,         45	0 mA 0 μA 75 5 V 0 V
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	75 5 V 0 V
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	5 V 0 V
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	5 V 0 V
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	5 V 0 V
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	0 V
VBE(ON)Base-Emitter On VoltageIc = 1.0 A, VCE = 1.0 V1.SMALL SIGNAL CHARACTERISTICS $f_T$ Current Gain - Bandwidth ProductIc = 10 mA, VCE = 5.0 V, f = 35 MHz	0 V
SMALL SIGNAL CHARACTERISTICS $f_T$ Current Gain - Bandwidth Product $I_c = 10 \text{ mA}, V_{CE} = 5.0 \text{ V},  45$ f = 35 MHz	<u> </u>
$f_T$ Current Gain - Bandwidth Product $I_C = 10 \text{ mA}, V_{CE} = 5.0 \text{ V},$ 45 f = 35  MHz	MH
$f_T$ Current Gain - Bandwidth Product $I_C = 10 \text{ mA}, V_{CE} = 5.0 \text{ V},$ 45 f = 35  MHz	MH
	1
Typical Characteristics Typical Pulsed Current Gain Collector-Emitter Satura	ation
vs Collector Current $\widehat{\mathcal{E}}$ Voltage vs Collector Cur	rent
$ \begin{array}{c} \mathbf{v}_{c} = v$	
$ \begin{array}{c} \mathbf{S} \\ \mathbf{E} \\ \mathbf{z} \\ \mathbf$	
$H_{125}^{\circ}C$	25°C
	125 °C
$\overset{\mu}{=}$ 0.01 0.1 1 2 $\overset{\mu}{=}$ 0.01 0.1 I <sub>c</sub> - COLLECTOR CURRENT (A) > I <sub>c</sub> - COLLECTOR CURRENT	
	1 3 (A)
	1 3 (A)
	 1 3 (A)
	3 1 5 (A)
	3 1 3 (A)

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### **PNP General Purpose Amplifier** (continued)



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