

# **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
$V_{CEO}$	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	Α
T <sub>J</sub> , T <sub>stg</sub>	Operating and Storage Junction Temperature Range	-55 to +150	°C

<sup>\*</sup>These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

- 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.
   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
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

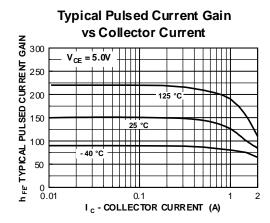
## **PNP General Purpose Amplifier**

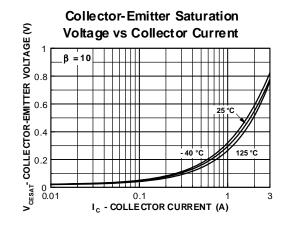
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Electr	Electrical Characteristics TA = 25°C unless otherwise noted					
Symbol	Parameter	Test Conditions	Min	Max	Units	
055 0114	DA OTEDIOTIOS					
OFF CHA	RACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_{\rm C} = 10 \text{ mA}, I_{\rm B} = 0$	20		V	
V <sub>(BR)CES</sub>	Collector-Base Breakdown Voltage	$I_C = 100  \mu A, I_E = 0$	25		V	
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	$I_E = 10  \mu A,  I_C = 0$	5.0		V	
I <sub>CBO</sub>	Collector-Cutoff Current	$V_{CB} = 25 \text{ V}, I_E = 0$ $V_{CB} = 25 \text{ V}, I_E = 0, T_A = 150^{\circ}\text{C}$		10 1.0	μA mA	
I <sub>EBO</sub>	Emitter-Cutoff Current	$V_{EB} = 5.0 \text{ V}, I_{C} = 0$		10	μΑ	
ON CHAR	ACTERISTICS  DC Current Gain	I <sub>C</sub> = 5.0 mA, V <sub>CE</sub> = 10 V	50			
		$I_C = 0.5 \text{ A}, V_{CE} = 1.0 \text{ V}$ $I_C = 1.0 \text{ A}, V_{CE} = 1.0 \text{ V}$	85 60	375		
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	$I_C = 1.0 \text{ A}, I_B = 100 \text{ mA}$		0.5	V	
V <sub>BE(on)</sub>	Base-Emitter On Voltage	$I_C = 1.0 \text{ A}, V_{CE} = 1.0 \text{ V}$		1.0	V	
	GNAL CHARACTERISTICS					
f⊤	Current Gain - Bandwidth Product	$I_C = 10 \text{ mA}, V_{CE} = 5.0 \text{ V},$ f = 35 MHz	45		MHz	

NOTE: All voltages (V) and currents (A) are negative polarity for PNP transistors.

# **Typical Characteristics**

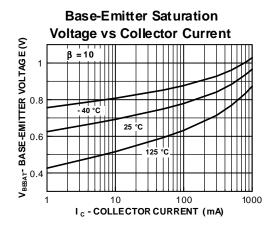


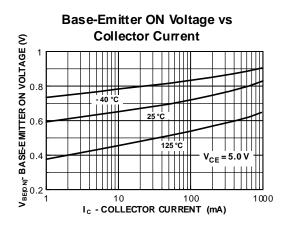


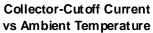
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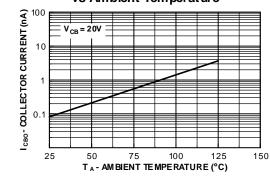
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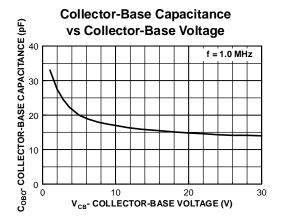
## Typical Characteristics (continued)



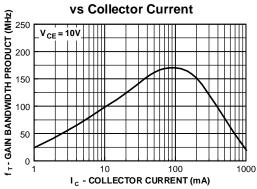




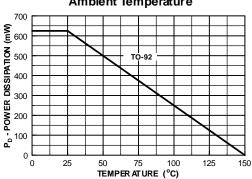




Gain Bandwidth Product



Power Dissipation vs Ambient Temperature



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