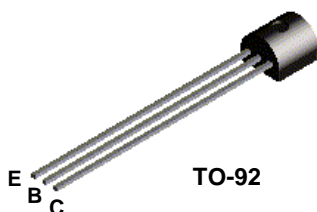


**BC548  
BC548A  
BC548B  
BC548C**



**NPN General Purpose Amplifier**

This device is designed for use as general purpose amplifiers and switches requiring collector currents to 300 mA. Sourced from Process 10. See PN100A for characteristics.

**Absolute Maximum Ratings\***

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CEO</sub>	Collector-Emitter Voltage	30	V
V <sub>CES</sub>	Collector-Base Voltage	30	V
V <sub>EBO</sub>	Emitter-Base Voltage	5.0	V
I <sub>C</sub>	Collector Current - Continuous	500	mA
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.

**Thermal Characteristics**

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		BC548 / A / B / C	
P <sub>D</sub>	Total Device Dissipation Derate above 25°C	625	mW
		5.0	mW/°C
R <sub>θJC</sub>	Thermal Resistance, Junction to Case	83.3	°C/W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	200	°C/W

## NPN General Purpose Amplifier

(continued)

### Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
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#### OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	30		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0	30		V
$V_{(BR)CES}$	Collector-Base Breakdown Voltage	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0	30		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0	5.0		V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 30 V, I <sub>E</sub> = 0 V <sub>CB</sub> = 30 V, I <sub>E</sub> = 0, T <sub>A</sub> = +150 °C		15 5.0	nA μA

#### ON CHARACTERISTICS

$h_{FE}$	DC Current Gain	V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 2.0 mA			
		<b>548</b>	110	800	
		<b>548A</b>	110	220	
		<b>548B</b>	200	450	
		<b>548C</b>	420	800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0.5 mA I <sub>C</sub> = 100 mA, I <sub>B</sub> = 5.0 mA		0.25 0.60	V V
$V_{BE(on)}$	Base-Emitter On Voltage	V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 2.0 mA V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 10 mA	0.58	0.70 0.77	V V

#### SMALL SIGNAL CHARACTERISTICS

$h_{fe}$	Small-Signal Current Gain	I <sub>C</sub> = 2.0 mA, V <sub>CE</sub> = 5.0 V, f = 1.0 kHz	125	900	
NF	Noise Figure	V <sub>CE</sub> = 5.0 V, I <sub>C</sub> = 200 μA, R <sub>S</sub> = 2.0 kΩ, f = 1.0 kHz, B <sub>W</sub> = 200 Hz		10	dB

BC548 / BC548A / BC548B / BC548C

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## PRODUCT STATUS DEFINITIONS

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