New Jersey Semi-Conductor Products, Inc.

20 STERN AVE. SPRINGFIELD, NEW JERSEY 07081 U.S.A.

> **BC548 BC548A BC548B BC548C**

EBC TO-or

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.

TA = 25°C unless otherwise noted				
Symbol	Parameter	Value	Units	
V _{CEO}	Collector-Emitter Voltage		V	
V _{CES}	Collector-Base Voltage	30	v	
V _{EBO}	Emitter-Base Voltage	5.0		
lc	Collector Current - Continuous	500	mA	
T _J , T _{stg}	Operating and Storage Junction Temperature Range	-55 to +150		

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES

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

Thermal Characteristics TA = 25°C unless otherwise noted

Symbol	Characteristic	Мах	Units	
		BC548 / A / B / C	-	
Po	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C	
R _{⊎JC}	Thermal Resistance, Junction to Case	83.3	C/W	
R _{eja}	Thermal Resistance, Junction to Ambient	200	°C/W	



NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

TELEPHONE: (973) 376-2922 (212) 227-6005 FAX: (973) 376-8960

Absolute Maximum Ratings*

NPN General Purpose Amplifier (continued)

Electrical Characteristics TA ≈ 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units

OFF CHARACTERISTICS

V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _c = 10 mA, I _B = 0	30		V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	$I_c = 10 \mu A, I_E = 0$	30		V
V(BR)CES	Collector-Base Breakdown Voltage	$I_{c} = 10 \ \mu A, I_{E} = 0$	30		V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	$I_{\rm E} = 10 \mu {\rm A}, I_{\rm C} = 0$	5.0		V
Ісво	Collector Cutoff Current	$V_{CB} = 30 \text{ V}, I_E = 0$		15	nA
		V _{CB} = 30 V, I _E = 0, T _A = +150 °C		5.0	μΑ

ON CHARACTERISTICS

h _{FE}	DC Current Gain	$V_{CE} = 5.0 V, I_{C} = 2.0 mA$	548	110	800	
			548A	110	220	1
			548B	200	450	
			548C	420	800	
VCE(sat)	Collector-Emitter Saturation Voltage	$I_{c} = 10 \text{ mA}, I_{B} = 0.5 \text{ mA}$			0.25	V
		$I_c = 100 \text{ mA}, I_B = 5.0 \text{ mA}$			0.60	l v
V _{BE(on)}	Base-Emitter On Voltage	V _{CE} = 5.0 V, I _c = 2.0 mA		0.58	0.70	V
		V _{CE} = 5.0 V, I _C = 10 mA			0.77	V

SMALL SIGNAL CHARACTERISTICS

h _{fe}	Small-Signal Current Gain	I _c = 2.0 mA, V _{ce} = 5.0 V, f = 1.0 kHz	125	900	
NF	Noise Figure	$ \begin{array}{l} V_{CE} = 5.0 \; V, \; I_C = 200 \; \mu A, \\ R_S = 2.0 \; k \Omega, \; f = 1.0 \; k H z, \\ B_W = 200 \; H z \end{array} $		10	dB