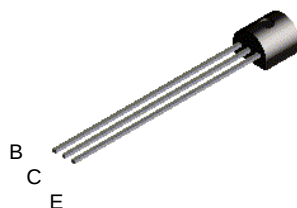




BC212L



TO-92

PNP General Purpose Amplifier

This device is designed for general purpose amplifier applications at collector currents to 300mA.
Sourced from Process 68.

Absolute Maximum Ratings*

$T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	50	V
V_{CBO}	Collector-Base Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous	300	mA
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ\text{C}$

*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

$T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Characteristic	Max	Units
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^\circ\text{C/W}$

PNP General Purpose Amplifier

(continued)

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 2\text{ mA}$	50		V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\text{ }\mu\text{A}$	60		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\text{ }\mu\text{A}$	5		V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 30\text{V}$		15	nA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 4\text{V}$		15	nA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	$I_C = 10\text{ }\mu\text{A}, V_{CE} = 5\text{ V}$ $I_C = 2\text{ mA}, V_{CE} = 5\text{ V}$	40 60	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 100\text{ mA}, I_B = 5\text{ mA}$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 100\text{ mA}, I_B = 5\text{ mA}$		1.1	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 2\text{ mA}, V_{CE} = 5\text{ V}$	0.6	0.72	V
SMALL SIGNAL CHARACTERISTICS					
C_{ob}	Output Capacitance	$V_{CB} = 10\text{ V}, f = 1.0\text{ MHz}$		10	pF
h_{fe}	Small Signal Current Gain	$I_C = 2\text{ mA}, V_{CE} = 5\text{ V}, f = 1\text{ kHz}$	60		-
NF	Noise Figure	$I_C = 200\text{ }\mu\text{A}, V_{CE} = 5\text{ V}, f = 1\text{ kHz},$ $R_g = 2\text{ K}\Omega, BW = 200\text{ Hz}$		10	dB
f_T	Current Gain-Bandwidth Product	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}, f = 100\text{ MHz}$	200		MHz

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

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