

BC212B

PNP General Purpose Amplifier

- This device is designed for general purpose amplifier application at collector currents to 100mA.
- Sourced from process 68.



Absolute Maximum Ratings* $T_C=25^\circ\text{C}$ 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	100	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ 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

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 2\text{mA}$	50			V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}$	60			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}$	5			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 30\text{V}$			15	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 4\text{V}$			15	nA
On Characteristics*						
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}, I_C = 2\text{mA}$	40 60			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 100\text{mA}, I_B = 5\text{mA}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 100\text{mA}, I_B = 5\text{mA}$			1.4	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$	0.6		0.72	V
Small Signal Characteristics						
C_{ob}	Output Capacitance	$V_{CE} = 10\text{V}, f = 1\text{MHz}$			6	pF
h_{fe}	Small Signal Current Gain	$V_{CE} = 5\text{V}, I_C = 2\text{mA}, f = 1\text{KHz}$	200		400	
NF	Noise Figure	$V_{CE} = 5\text{V}, I_C = 200\mu\text{A}, f = 1\text{KHz}$ $R_G = 2\text{K}\Omega, BW = 200\text{Hz}$			10	dB

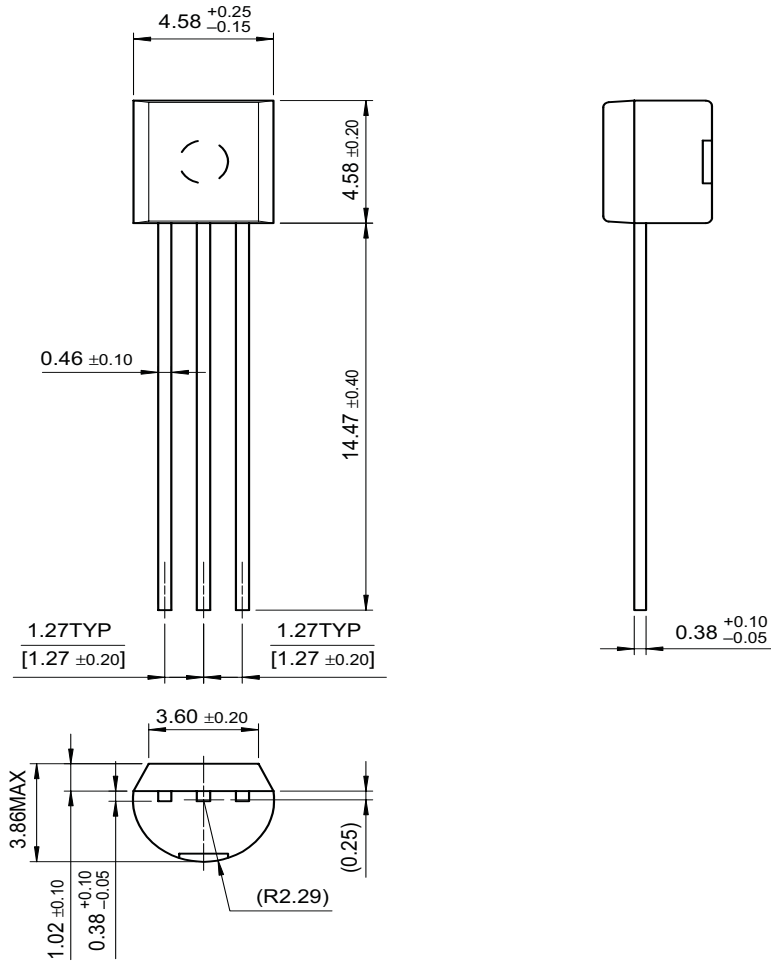
* Pulse Test: Pulse Width < 300 μs , Duty Cycle < 2.0%

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

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation	350	mW
	Derate above 25°C	2.8	$\text{mW}/^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$

Package Dimensions

TO-92



Dimensions in Millimeters

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