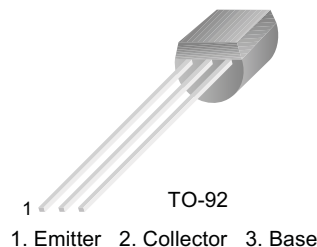


BC213L

BC213L

PNP General Purpose Amplifier

- This device is designed for use as general purpose amplifiers and switches requiring collector currents to 300mA.
- Sourced from process 68.
- See PN200 for Characteristics.



Absolute Maximum Ratings* $T_C=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{CBO}	Collector-Base Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current (DC) - Continuous	-500	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 degrees 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.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Voltage	$I_C = -2\text{mA}, I_B = 0$	-30		V
$V_{(BR)CBO}$	Collector-Base Voltage	$I_C = -10\mu\text{A}, I_E = 0$	-45		V
$V_{(BR)EBO}$	Emitter-Base Voltage	$I_E = -10\mu\text{A}, I_C = 0$	-5.0		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -30\text{V}, I_E = 0$		-15	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -4.0\text{V}, I_C = 0$		-15	nA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = -5\text{V}, I_C = -10\mu\text{A}$ $V_{CE} = -5\text{V}, I_C = -2.0\text{mA}$	40 80	400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$ $I_C = -100\text{mA}, I_B = -5.0\text{mA}$		-0.25 -0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -100\text{mA}, I_B = -5.0\text{mA}$		-1.1	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -5.0\text{V}, I_C = -2.0\text{mA}$	-0.6	-0.72	V
Small Signal Characteristics					
f_T	Current gain Bandwidth Product	$V_{CE} = -5.0\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	200		MHz
NF	Noise Figure	$V_{CE} = -5.0\text{V}, I_C = -200\mu\text{A}$ $R_G = 2.0\text{k}\Omega, f = 1.0\text{KHz}$		10	dB
h_{fe}	Small Signal Current Gain	$I_C = -2.0\text{mA}, V_{CE} = -5.0\text{V}$ $f = 1.0\text{KHz}$	80		

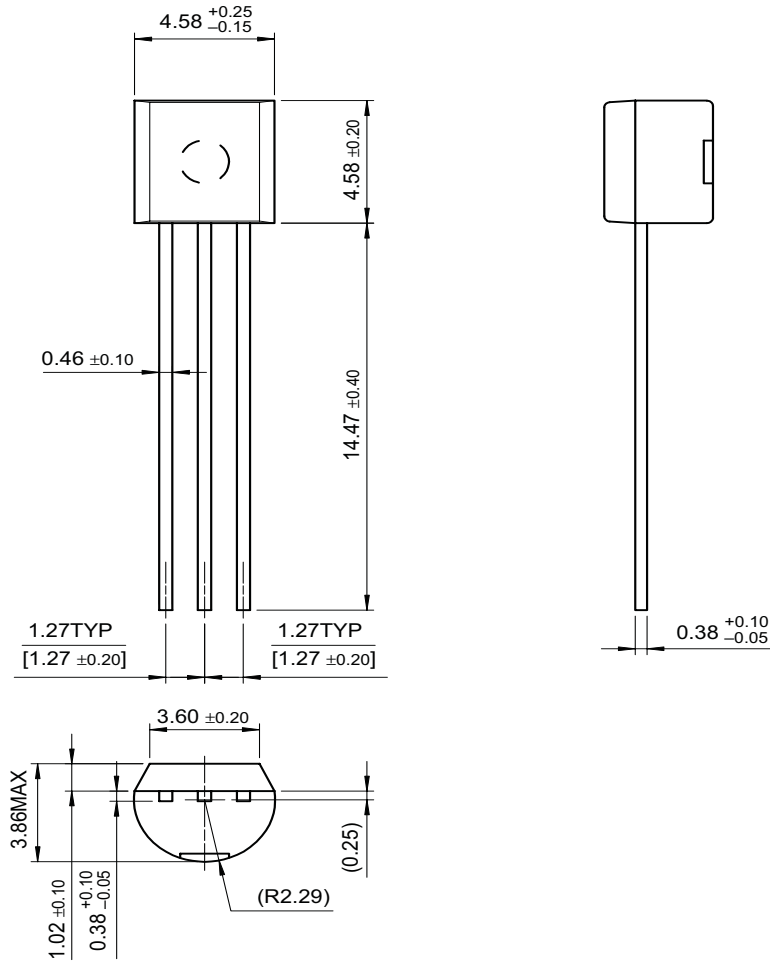
* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

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

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

Package Dimensions

TO-92



Dimensions in Millimeters

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