

SEMICONDUCTOR

# BC214LC

## **PNP General Purpose Amplifier**

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



1. Emitter 2. Collector 3. Base

### Absolute Maximum Ratings\* T<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CEO</sub>	Collector-Emitter Voltage	-30	V
V <sub>CBO</sub>	Collector-Base Voltage	-45	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5.0	V
I <sub>C</sub>	Collector Current (DC) Continuous	-500	mA
T <sub>J</sub> , T <sub>STG</sub>	Operating and Storage Junction Temperature Range	- 55 ~ 150	°C

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

#### NOTES:

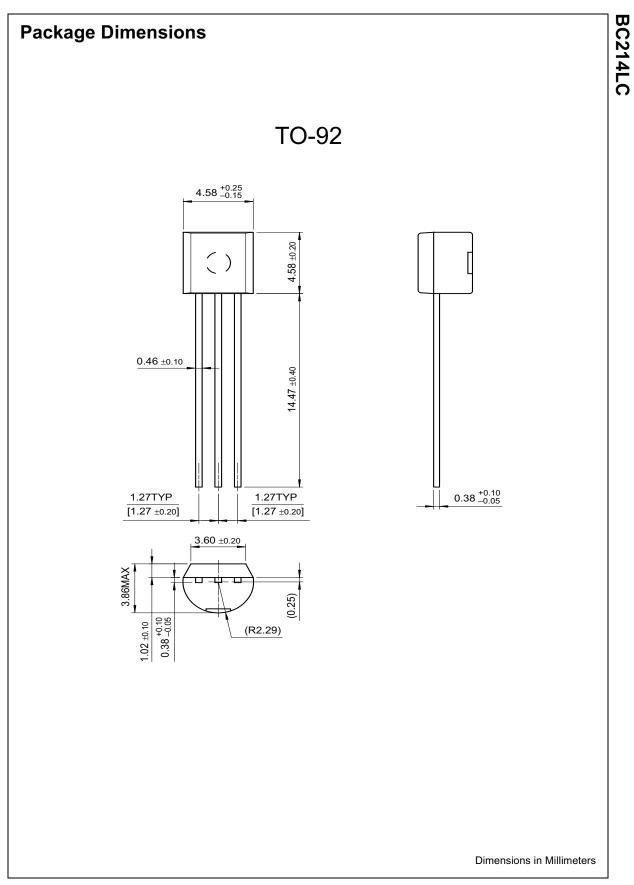
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

### Electrical Characteristics Ta=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characte	eristics	<b>.</b>		•	
V <sub>(BR)CEO</sub>	Collector-Emitter Voltage	$I_{\rm C} = -2mA, I_{\rm B} = 0$	-30		V
V <sub>(BR)CBO</sub>	Collector-Base Voltage	$I_{\rm C} = -10\mu A, I_{\rm E} = 0$	-45		V
V <sub>(BR)EBO</sub>	Emitter-Base Voltage	$I_{\rm E} = -10\mu A, I_{\rm C} = 0$	-5.0		V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = -30V, I <sub>E</sub> = 0		-15	nA
I <sub>EBO</sub>	Emitter Cut-off Current	$V_{EB} = -4V, I_{C} = 0$		-15	nA
On Characte	eristics *				
h <sub>FE</sub>	DC Current Gain	$V_{CE} = -5V, I_{C} = -2mA$	140	400	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -10mA, I <sub>B</sub> = -0.5mA I <sub>C</sub> = -100mA, I <sub>B</sub> = -5mA		-0.25 -0.6	V
V <sub>BE</sub> (sat)	Base-Emitter Saturation Voltage	$I_{\rm C}$ = -100mA, $I_{\rm B}$ = -5mA		-1.1	V
V <sub>BE</sub> (on)	Base-Emitter On Voltage	V <sub>CE</sub> = -5V, I <sub>C</sub> = -2mA	-0.6	-0.72	V
Small Signa	I Characteristics				
f <sub>T</sub>	Current gain Bandwidth Product	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA f = 100MHz	200		MHz
NF	Noise Figure	V <sub>CE</sub> = -5V, I <sub>C</sub> = -200μA R <sub>G</sub> = 2kΩ, f = 15.7KHz		2.0	dB
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = -2mA, V <sub>CE</sub> = -5V f = 1KHz	350	600	
C <sub>OB</sub>	Output Capacitance	V <sub>CB</sub> = -10V, f = 1MHz		10	pF

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

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Symbol	Parameter	Max.	Units
	Total Device Dissipation	625	mW
	Derate above 25°C	5.0	mW/°C
JC	Thermal Resistance, Junction to Case	83.3	°C/W
JA	Thermal Resistance, Junction to Ambient	200	°C/W



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