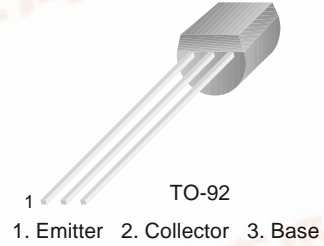


FAIRCHILD
SEMICONDUCTOR®

BC214LB

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.



Absolute Maximum Ratings* $T_a=25^\circ\text{C}$ 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 $T_a=25^\circ\text{C}$ 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	$V_{EB} = -4\text{V}, I_C = 0$		-15	nA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	140	400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$ $I_C = -100\text{mA}, I_B = -5\text{mA}$		-0.25 -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	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	-0.6	-0.72	V
Small Signal Characteristics					
f_T	Current gain Bandwidth Product	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	200		MHz
NF	Noise Figure	$V_{CE} = -5\text{V}, I_C = -200\mu\text{A}$ $R_G = 2\text{k}\Omega, f = 15.7\text{KHz}$		2.0	dB
h_{fe}	Small Signal Current Gain	$I_C = -2\text{mA}, V_{CE} = -5\text{V}$ $f = 1\text{KHz}$	200	400	
C_{OB}	Output Capacitance	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		10	pF

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

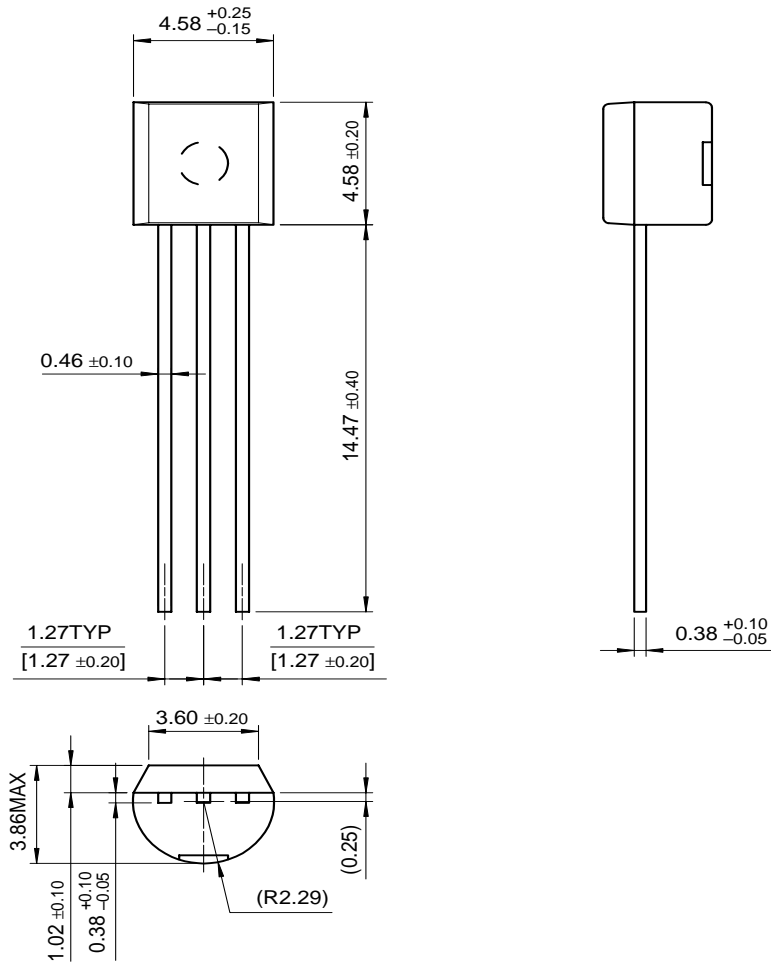


Thermal Characteristics $T_A=25^{\circ}\text{C}$ unless otherwise noted

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	$^{\circ}\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	$^{\circ}\text{C/W}$

Package Dimensions

TO-92



Dimensions in Millimeters

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CROSSVOLT™	GlobalOptoisolator™	MICROWIRE™	QT Optoelectronics™	TINYOPTO™
DOMET™	GTO™	MSX™	Quiet Series™	TruTranslation™
EcoSPARK™	HiSeC™	MSXPro™	RapidConfigure™	UHC™
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EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	VCX™
FACT™	ISOPLANAR™	OPTOLOGIC®	SMART START™	
Across the board. Around the world.™		OPTOPLANAR™	SPM™	
The Power Franchise™		PACMAN™	Stealth™	
Programmable Active Droop™		POP™	SuperSOT™-3	

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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