

BC546,A,B  
BC547,A,B,C  
BC548,A,B,C

**SILICON  
NPN TRANSISTORS**



**TO-92-18R CASE**



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BC546, BC547, BC548 series devices are silicon NPN small signal transistors, manufactured by the epitaxial planar process, designed for general purpose amplifier applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Collector-Base Voltage  
Collector-Emitter Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Continuous Collector Current  
Peak Collector Current  
Peak Base Current  
Peak Emitter Current  
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance  
Thermal Resistance

SYMBOL	BC546	BC547	BC548	UNITS
$V_{CB0}$	80	50	30	V
$V_{CES}$	80	50	30	V
$V_{CEO}$	65	45	30	V
$V_{EBO}$	6.0	6.0	5.0	V
$I_C$		100		mA
$I_{CM}$		200		mA
$I_{BM}$		200		mA
$I_{EM}$		200		mA
$P_D$		500		mW
$T_J, T_{stg}$		-65 to +150		$^\circ\text{C}$
$\theta_{JA}$		250		$^\circ\text{C/W}$
$\theta_{JC}$		150		$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=30\text{V}$			15	nA
$I_{CBO}$	$V_{CB}=30\text{V}, T_A=150^\circ\text{C}$			5.0	$\mu\text{A}$
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			250	mV
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$			600	mV
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$		700		mV
$V_{BE(SAT)}$	$I_C=100\text{mA}, I_B=5.0\text{mA}$		900		mV
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	580		700	mV
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$			770	mV
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$ (BC546,A, BC547,A, BC548,A)		90		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$ (BC546B, BC547B, BC548B)		150		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$ (BC547C, BC548C)		270		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC546)	110		450	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC546A, BC547A, BC548A)	110		220	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC546B, BC547B, BC548B)	200		450	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC547, BC548)	110		800	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$ (BC547C, BC548C)	420		800	
$h_{fe}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}, f=1.0\text{kHz}$	125		900	
$f_T$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=35\text{MHz}$		300		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		2.5		pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		9.0		pF
NF	$V_{CE}=5.0\text{V}, I_C=0.2\text{mA}, R_G=2.0\text{k}\Omega, B=200\text{Hz}, f=1.0\text{kHz}$		2.0	10	dB

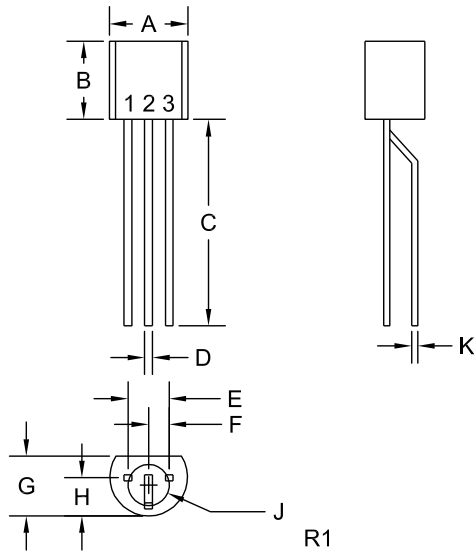
R1 (13-December 2013)

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TO-92-18R CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
J (DIA)	0.100		2.54	
K	0.015		0.38	

TO-92-18R (REV: R1)

LEAD CODE:

- 1) Collector
- 2) Base
- 3) Emitter

MARKING:

FULL PART NUMBER

R1 (13-December 2013)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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