

## Features

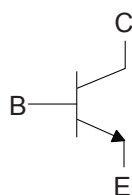
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 200°C/W Junction to Ambient
- Thermal Resistance: 83.3°C/W Junction to Case

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	BC546	80	V
	BC547	50	
	BC548	30	
Collector-Emitter Voltage	BC546	65	V
	BC547	45	
	BC548	30	
Emitter-Base Voltage	BC546	6	V
	BC547	6	
	BC548	6	
Continuous Collector Current	$I_C$	0.1	A
Power Dissipation @ $T_A=25^\circ\text{C}$	$P_D$	0.625	W
Power Dissipation @ $T_C=25^\circ\text{C}$	$P_D$	1.5	W

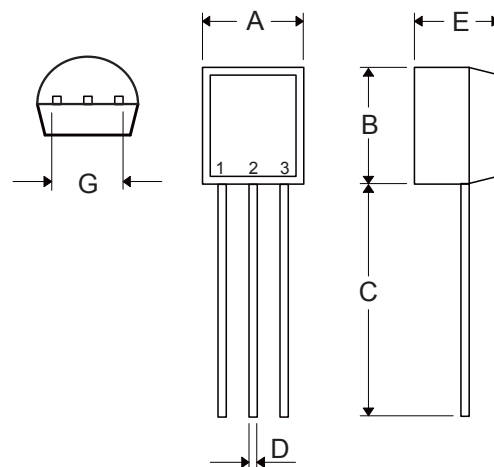
## Internal Structure



1.COLLECTOR  
2.BASE  
3.EMITTER

# NPN Silicon Amplifier Transistor

## TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.169	0.185	4.30	4.70	
C	0.500	-----	12.70	-----	
D	0.015	0.022	0.38	0.55	
E	0.130	0.146	3.30	3.70	
G	0.095	0.105	2.42	2.67	Straight Lead
	0.173	0.220	4.40	5.60	Bent

**Electrical Characteristics @ T<sub>A</sub>=25°C Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	BC546	80			V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
	BC547	50				
	BC548	30				
Collector-Emitter Breakdown Voltage	BC546	65			V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
	BC547	45				
	BC548	30				
Emitter-Base Breakdown Voltage	BC546	6			V	I <sub>E</sub> =10μA, I <sub>C</sub> =0
	BC547	6				
	BC548	6				
Collector Cutoff Current	BC546			0.1	μA	V <sub>CB</sub> =70V, I <sub>E</sub> =0
	BC547			0.1	μA	V <sub>CB</sub> =50V, I <sub>E</sub> =0
	BC548			0.1	μA	V <sub>CB</sub> =30V, I <sub>E</sub> =0
Collector Cutoff Current	BC546			0.1	μA	V <sub>CE</sub> =60V, I <sub>B</sub> =0
	BC547			0.1	μA	V <sub>CE</sub> =45V, I <sub>B</sub> =0
	BC548			0.1	μA	V <sub>CE</sub> =30V, I <sub>B</sub> =0
Emitter Cutoff Current	I <sub>EBO</sub>			0.1	μA	V <sub>EB</sub> =5V, I <sub>C</sub> =0
DC Current Gain	h <sub>FE</sub>	110		800		V <sub>CE</sub> =5V, I <sub>C</sub> =2mA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>			0.3	V	I <sub>C</sub> =100mA, I <sub>B</sub> =5mA
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>			1	V	I <sub>C</sub> =100mA, I <sub>B</sub> =5mA
Base-Emitter On Voltage	V <sub>BE(on)</sub>	0.55		0.7	V	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA
				0.77	V	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA
Output Capacitance	C <sub>ob</sub>		1.7	4.5	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz
Transition Frequency	f <sub>T</sub>	150	300		MHz	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=100MHz

**Classification of h<sub>FE</sub>**

Rank	A	B	C
Range	110-220	200-450	420-800

## Ordering Information

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 1k/Bag, 100K/Ctn;

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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