

## TO-92 Plastic-Encapsulate Transistors

### BC546/BC547/BC548 TRANSISTOR (NPN)

#### FEATURES

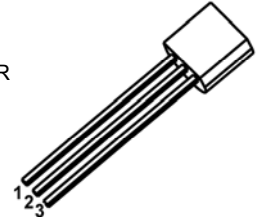
- High Voltage
- Complement to BC556,BC557,BC558

#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit	
$V_{CBO}$	Collector-Base Voltage	BC546	80	V
		BC547	50	
		BC548	30	
$V_{CEO}$	Collector-Emitter Voltage	BC546	65	V
		BC547	45	
		BC548	30	
$V_{EBO}$	Emitter-Base Voltage	BC546	6	V
		BC547	6	V
		BC548	5	V
$I_C$	Collector Current-Continuous	0.1	A	
$P_C$	Collector Power Dissipation	625	mW	
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	$^{\circ}\text{C}/\text{W}$	
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$	
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$	

#### TO - 92

1. COLLECTOR
2. BASE
3. EMITTER



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC546	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 0.1mA, I <sub>E</sub> =0	80			V
	BC547			50			
	BC548			30			
Collector-emitter breakdown voltage	BC546	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	65			V
	BC547			45			
	BC548			30			
Emitter-base breakdown voltage	BC546	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6			V
	BC547			6			
	BC548			5			
Collector cut-off current	BC546	I <sub>CBO</sub>	V <sub>CB</sub> =70V, I <sub>E</sub> =0			0.1	μA
	BC547		V <sub>CB</sub> =50V, I <sub>E</sub> =0			0.1	μA
	BC548		V <sub>CB</sub> =30V, I <sub>E</sub> =0			0.1	μA
Collector cut-off current	BC546	I <sub>CEO</sub>	V <sub>CE</sub> =60V, I <sub>B</sub> =0			0.1	μA
	BC547		V <sub>CE</sub> =45V, I <sub>B</sub> =0			0.1	μA
	BC548		V <sub>CE</sub> =30V, I <sub>B</sub> =0			0.1	μA
Emitter cut-off current		I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0			0.1	μA
DC current gain		h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	110		800	
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =5mA			0.3	V
Base-emitter saturation voltage		V <sub>BE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =5mA			1.1	V
Base-emitter voltage		V <sub>BE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	0.58		0.7	V
			V <sub>CE</sub> =5V, I <sub>C</sub> =10mA			0.75	V
Collector output capacitance		C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz			4.5	pF
Transition frequency		f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=100MHz	150			MH

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

RANK	A	B	C
RANGE	110-220	200-450	420-800