



TO-92 Plastic-Encapsulate Transistors

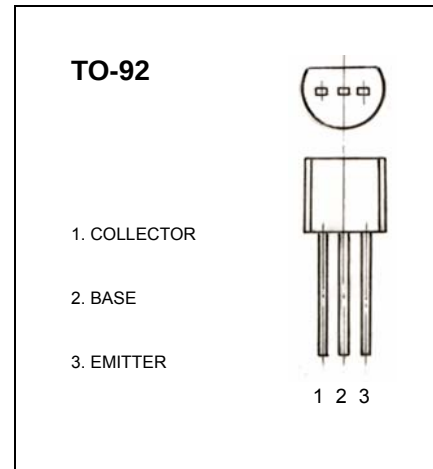
BC546/BC547/BC548 TRANSISTOR (NPN)

FEATURES

- High Voltage
- Complement to BC556,BC557,BC558

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

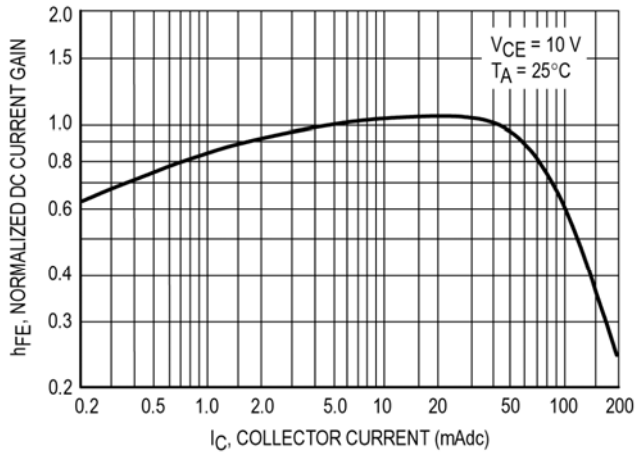
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage BC546	80	V
	BC547	50	
	BC548	30	
V_{CEO}	Collector-Emitter Voltage BC546	65	V
	BC547	45	
	BC548	30	
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	100	mA
P_D	Total Device Dissipation	625	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



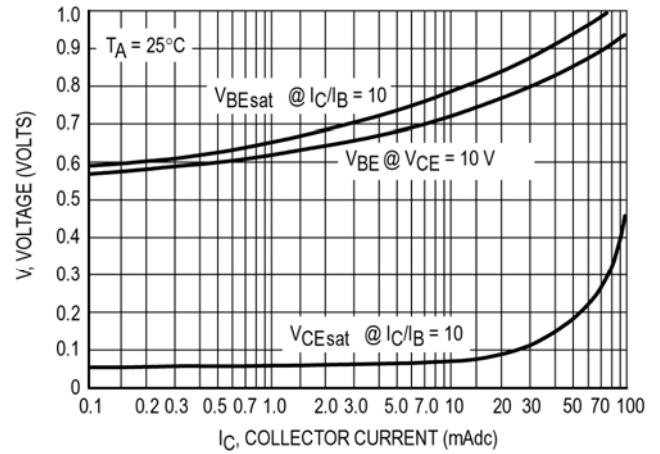
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage BC546 BC547 BC548	V_{CBO}	$I_C = 100\mu\text{A}$, $I_E = 0$	80 50 30		V
Collector-emitter breakdown voltage BC546 BC547 BC548	V_{CEO}	$I_C = 1\text{mA}$, $I_B = 0$	65 45 30		V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 10\mu\text{A}$, $I_C = 0$	6		V
Collector cut-off current BC546 BC547 BC548	I_{CBO}	$V_{CB} = 70\text{V}$, $I_E = 0$ $V_{CB} = 50\text{V}$, $I_E = 0$ $V_{CB} = 30\text{V}$, $I_E = 0$		0.1	μA
Collector cut-off current BC546 BC547 BC548	I_{CEO}	$V_{CE} = 60\text{V}$, $I_B = 0$ $V_{CE} = 45\text{V}$, $I_B = 0$ $V_{CE} = 30\text{V}$, $I_B = 0$		0.1	μA
Emitter cut-off current BC546 BC547 BC548	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$		0.1	μA
DC current gain BC546 BC547 BC548 BC546A/BC547A/BC548A BC546B/BC547B/BC548B BC546C/BC547C/BC548C	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$	110 110 110 110 200 420	800 800 800 220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		1.1	V
Transition frequency	f_T	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$ $f = 100\text{MHz}$	150		MHz

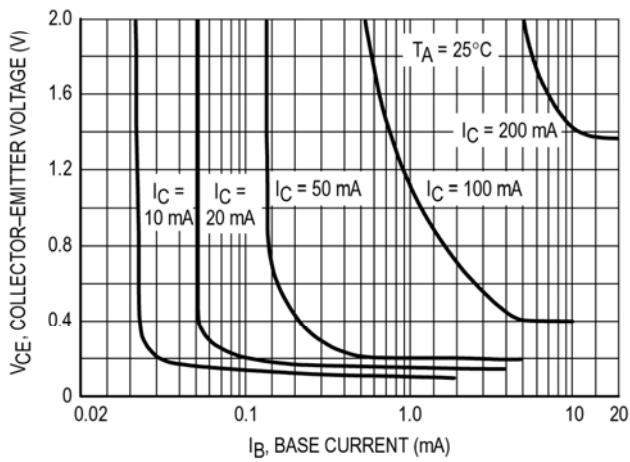
Typical Characteristics



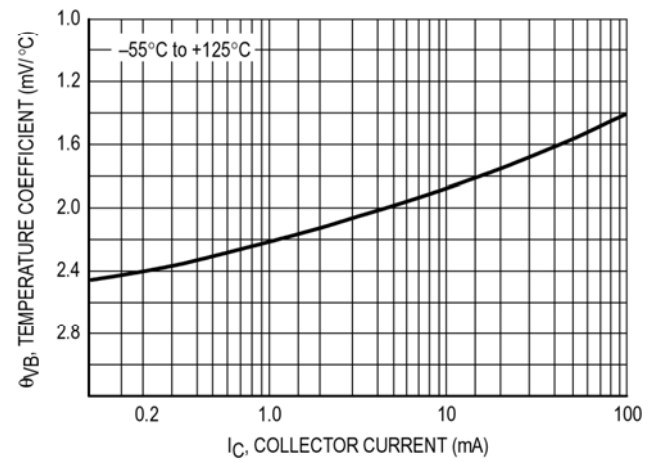
Normalized DC Current Gain



"Saturation" and "On" Voltages

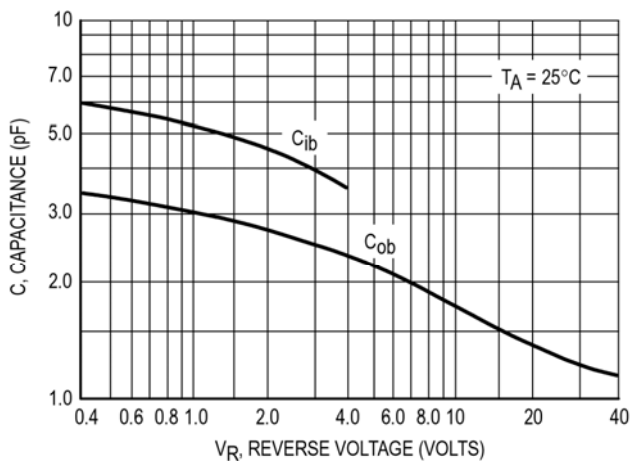


Collector Saturation Region

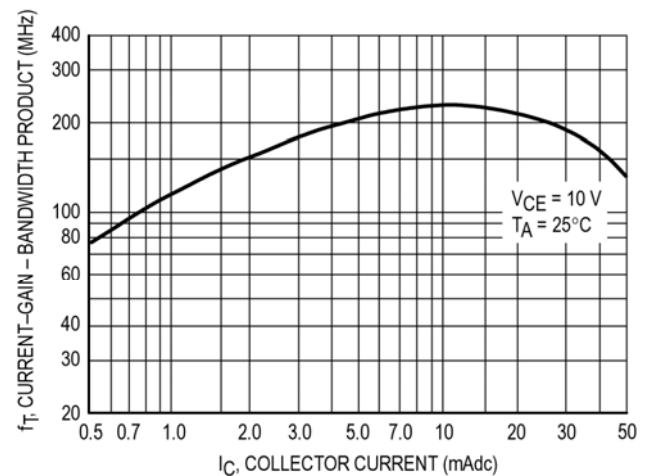


Base-Emitter Temperature Coefficient

BC547/BC548

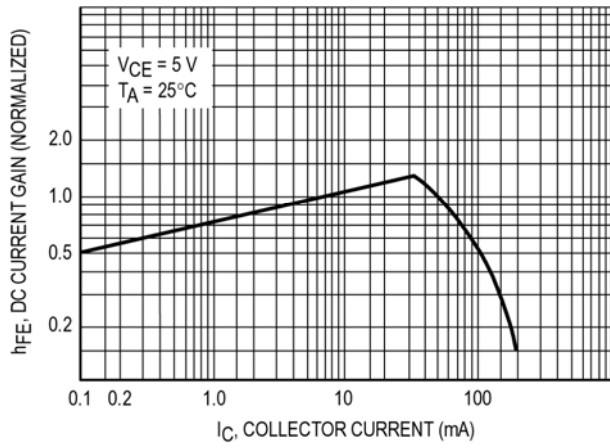


Capacitances

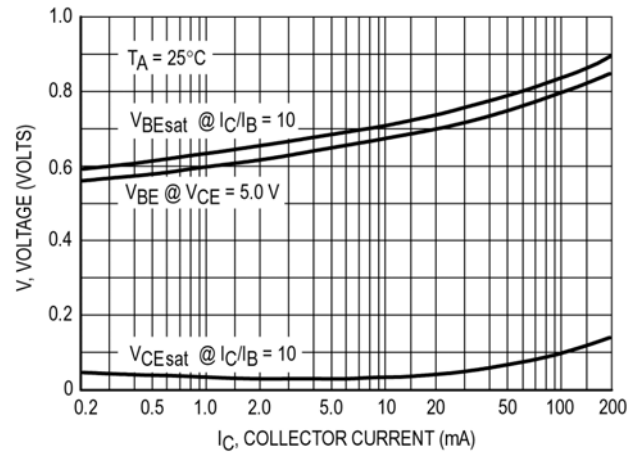


Current-Gain - Bandwidth Product

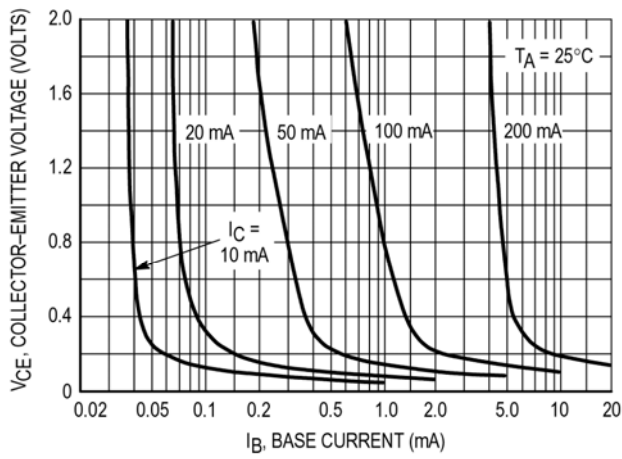
BC547/BC548



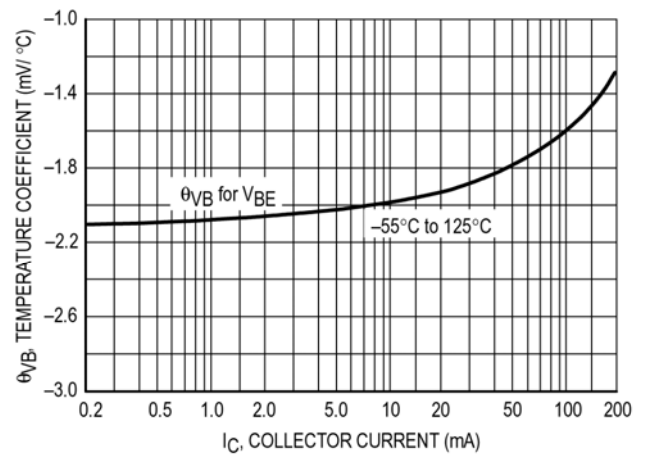
DC Current Gain



"On" Voltage

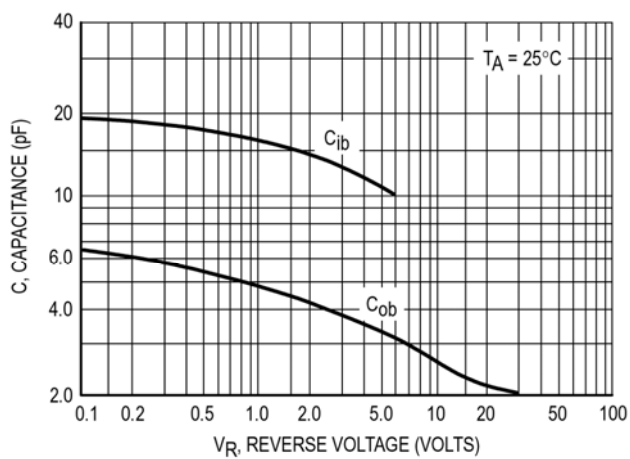


Collector Saturation Region

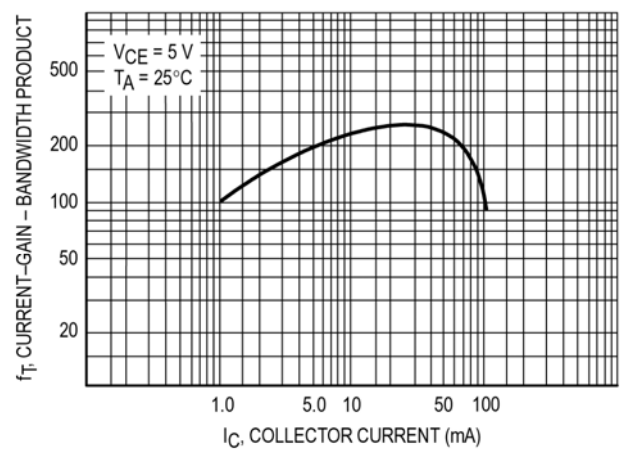


Base-Emitter Temperature Coefficient

BC546



Capacitance



Current-Gain - Bandwidth Product