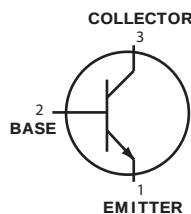
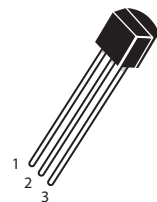


NPN General Purpose Transistor

(Pb) Lead(Pb)-Free



TO-92



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

Rating	Symbol	BC546	BC547	BC548	Unit
Collector-Emitter Voltage	V_{ECO}	65	45	30	Vdc
Collector-Base Voltage	V_{CBO}	80	50	30	Vdc
Emitter-Base Voltage	V_{EBO}	6	6	6	Vdc
Collector Current Continuous	I_C	100			mAdc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Total Device Dissipation Alumina Substrate, $T_A = 25^{\circ}\text{C}$	P_D	625	mW/ $^{\circ}\text{C}$
Junction and Storage, Temperature	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C = 1 \text{ mAdc}$, $I_B = 0$)	BC546 BC547 BC548	$V_{(BR)CEO}$	65 45 30	- - -	Vdc
Collector-Base Breakdown Voltage ($I_C = 100 \text{ } \mu\text{Adc}$, $I_E = 0$)	BC546 BC547 BC548	$V_{(BR)CBO}$	80 50 30	- - -	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \text{ } \mu\text{Adc}$, $I_C = 0$)	BC546 BC547 BC548	$V_{(BR)EBO}$	6	-	Vdc

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

Characteristics	Symbol	Min	Max	Unit
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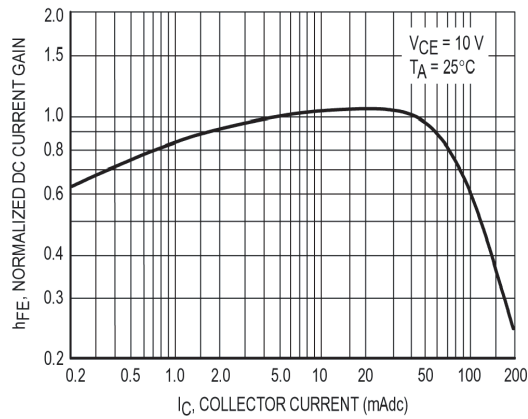
OFF CHARACTERISTICS

Collector Cutoff Current ($V_{CE}=60\text{V}$, $I_B=0$) ($V_{CE}=45\text{V}$, $I_B=0$) ($V_{CE}=30\text{V}$, $I_B=0$)	BC546	I_{CEO}	-	0.1	μA
	BC547		-		
	BC548		-		
Collector Cutoff Current ($V_{CB}=70\text{V}$, $I_E=0$) ($V_{CB}=50\text{V}$, $I_E=0$) ($V_{CB}=30\text{V}$, $I_E=0$)	BC546	I_{CBO}	-	0.1	μA
	BC547		-		
	BC548		-		
Emitter Cutoff Current ($V_{EB}=5.0\text{Vdc}$, $I_C=0$)	BC546	I_{EBO}	-	0.1	μA
	BC547				
	BC548				

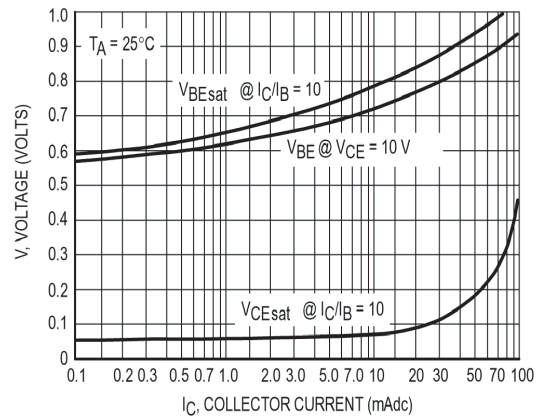
ON CHARACTERISTICS

DC current gain ($V_{CE}=5\text{V}$, $I_C=2\text{mA}$)	BC546	h_{FE}	110	450	
	BC547		110	800	
	BC548		110	800	
	BC547A/BC548A		110	220	
	BC546B/BC547B/BC548B		200	450	
	BC546C/BC547C/BC548C		420	800	
Collector-emitter saturation voltage ($I_C=100\text{mA}$, $I_B=5\text{mA}$)		$V_{CE(sat)}$	-	0.3	V
Base-emitter saturation voltage ($I_C=100\text{mA}$, $I_B=5\text{mA}$)		$V_{BE(sat)}$	-	1	V
Transition frequency ($V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$)		f_T	150	-	MHz

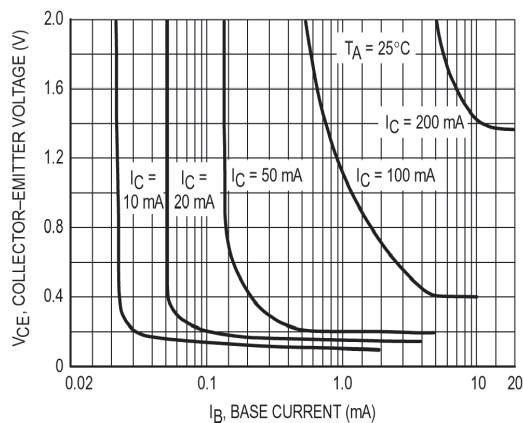
Typical Characteristics



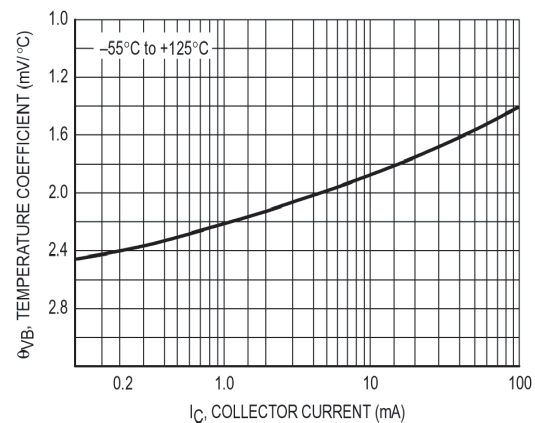
Normalized DC Current Gain



"Saturation" and "On" Voltages

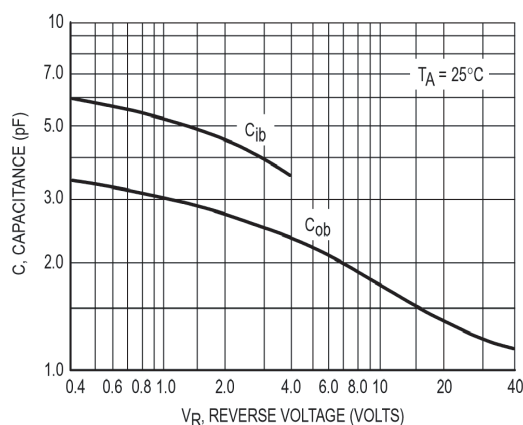


Collector Saturation Region

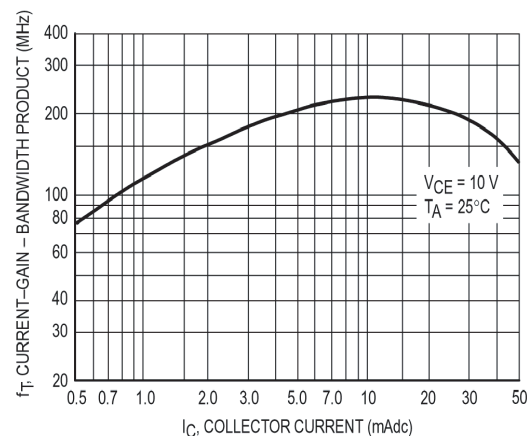


Base-Emitter Temperature Coefficient

BC547/BC548



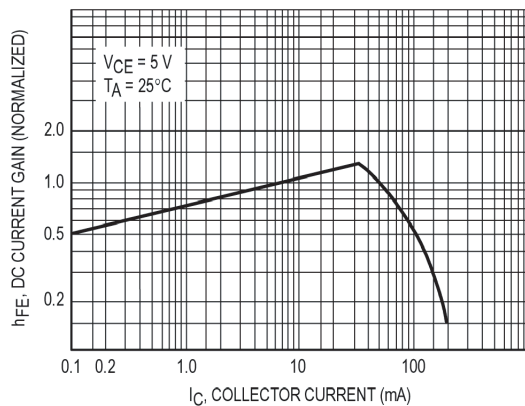
Capacitances



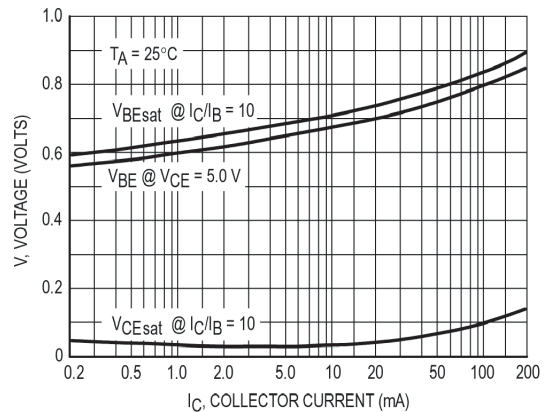
Current-Gain - Bandwidth Product

Typical Characteristics

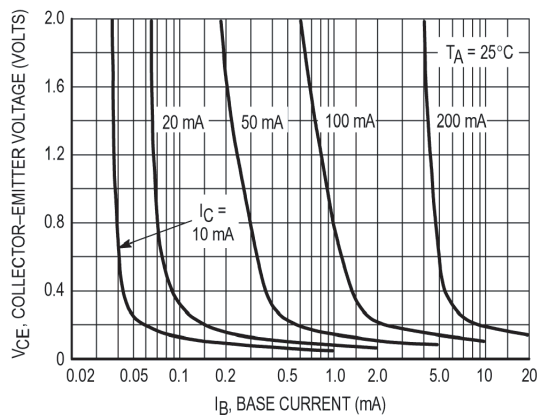
BC547/BC548



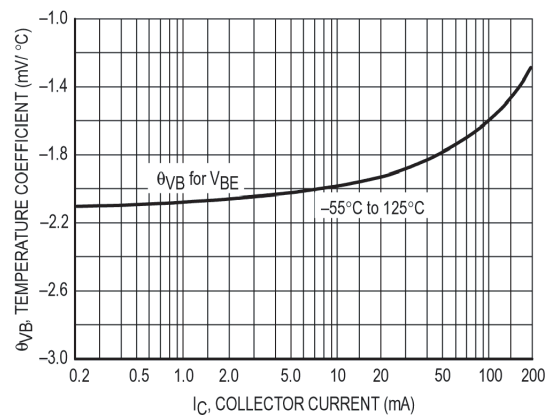
DC Current Gain



"On" Voltage

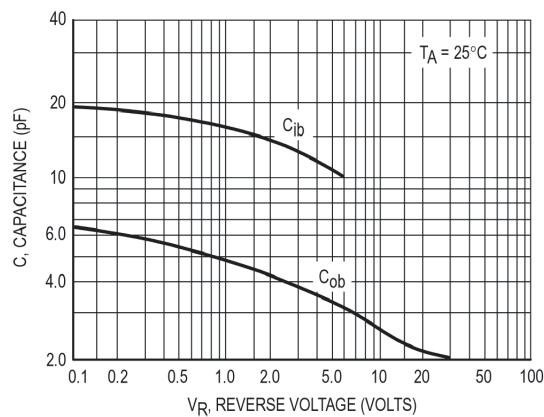


Collector Saturation Region

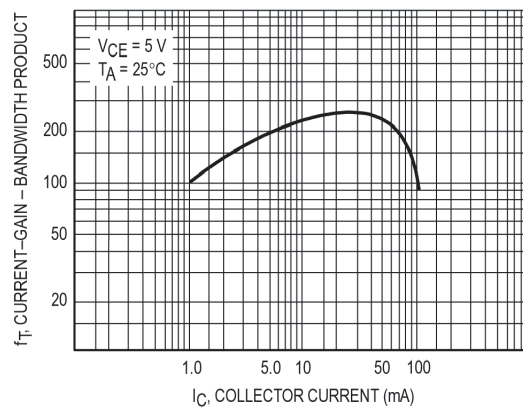


Base-Emitter Temperature Coefficient

BC546



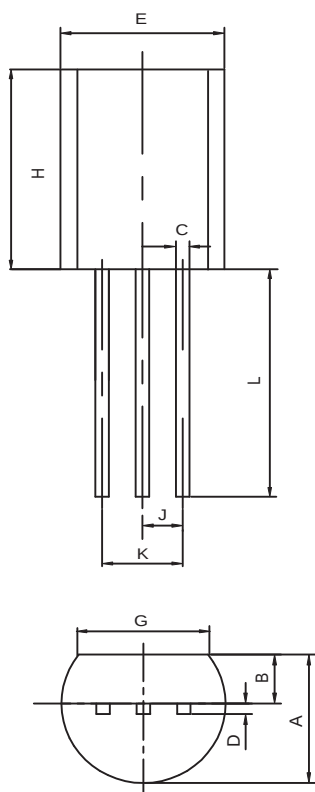
Capacitance



Current-Gain - Bandwidth Product

TO-92 Outline Dimensions

unit:mm



TO-92		
Dim	Min	Max
A	3.30	3.70
B	1.10	1.40
C	0.38	0.55
D	0.36	0.51
E	4.40	4.70
G	3.43	-
H	4.30	4.70
J	1.270TYP	
K	2.44	2.64
L	14.10	14.50