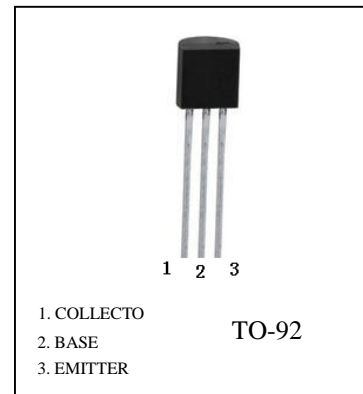


### BC546/BC547/BC548 (NPN)

#### FEATURES

- High Voltage
- Complement to BC556,BC557,BC558



Maximum Ratings (Ta=25 °C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	BC546	80
		BC547	50
		BC548	30
V <sub>CEO</sub>	Collector-Emitter Voltage	BC546	65
		BC547	45
		BC548	30
V <sub>EBO</sub>	Emitter-Base Voltage	BC546	6
		BC547	6
		BC548	5
I <sub>C</sub>	Collector Current-Continuous	0.1	A
P <sub>C</sub>	Collector Power Dissipation	625	mW
R <sub>JA</sub>	Thermal Resistance from Junction to Ambient	200	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

**BC546/BC547/BC548**

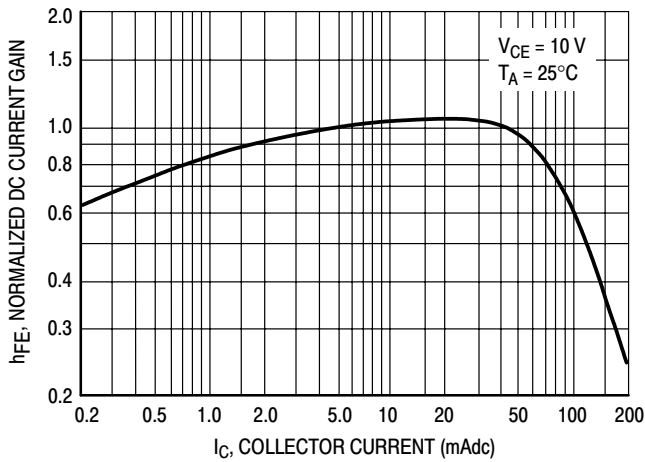
ELECTRICAL CHARACTERISTICS ( @ Ta=25 °C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC546	$V_{(BR)CBO}$ $I_C=0.1mA, I_E=0$	80			V
	BC547		50			
	BC548		30			
Collector-emitter breakdown voltage	BC546	$V_{(BR)CEO}$ $I_C=1mA, I_B=0$	65			V
	BC547		45			
	BC548		30			
Emitter-base breakdown voltage	BC546	$V_{(BR)EBO}$ $I_E=10\mu A, I_C=0$	6			V
	BC547		6			
	BC548		5			
Collector cut-off current	BC546	$I_{CBO}$ $V_{CB}=70V, I_E=0$			0.1	$\mu A$
	BC547		$V_{CB}=50V, I_E=0$		0.1	$\mu A$
	BC548		$V_{CB}=30V, I_E=0$		0.1	$\mu A$
Collector cut-off current	BC546	$I_{CEO}$ $V_{CE}=60V, I_B=0$			0.1	$\mu A$
	BC547		$V_{CE}=45V, I_B=0$		0.1	$\mu A$
	BC548		$V_{CE}=30V, I_B=0$		0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			0.1	$\mu A$
DC current gain	$h_{FE}^*$	$V_{CE}=5V, I_C=2mA$	110		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$			1.1	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=5V, I_C=2mA$	0.58		0.7	V
		$V_{CE}=5V, I_C=10mA$			0.75	V
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$			4.5	pF
Transition frequency	$f_T$	$V_{CE}=5V, I_C=10mA, f=100MHz$	150			MH

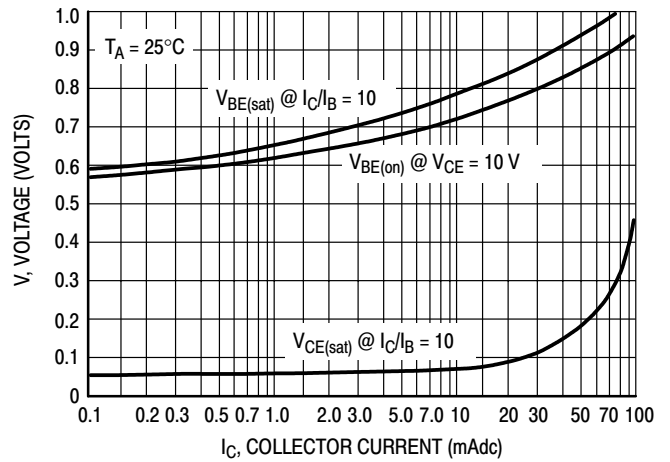
**CLASSIFICATION of  $h_{FE}$** 

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

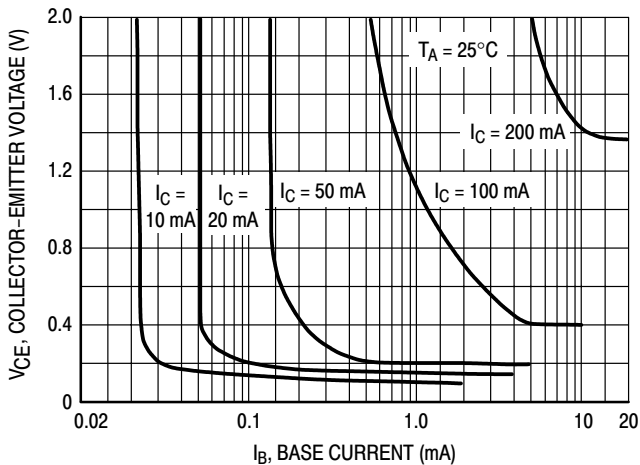
**BC546/BC547/BC548** Typical Characteristics



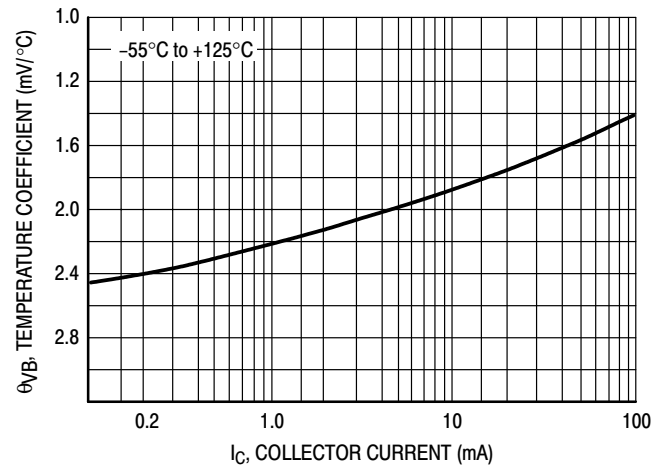
**Figure 1. Normalized DC Current Gain**



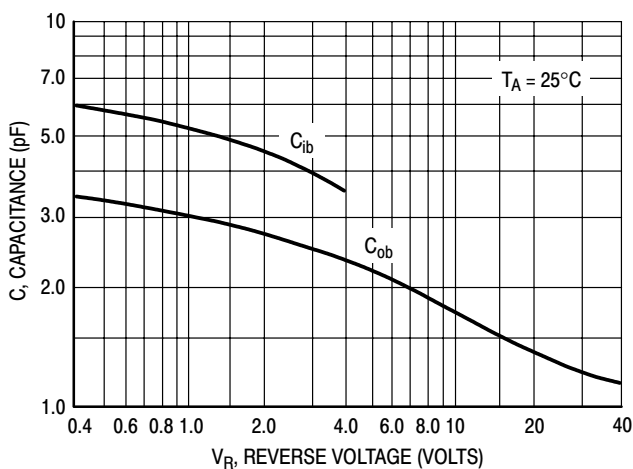
**Figure 2. "Saturation" and "On" Voltages**



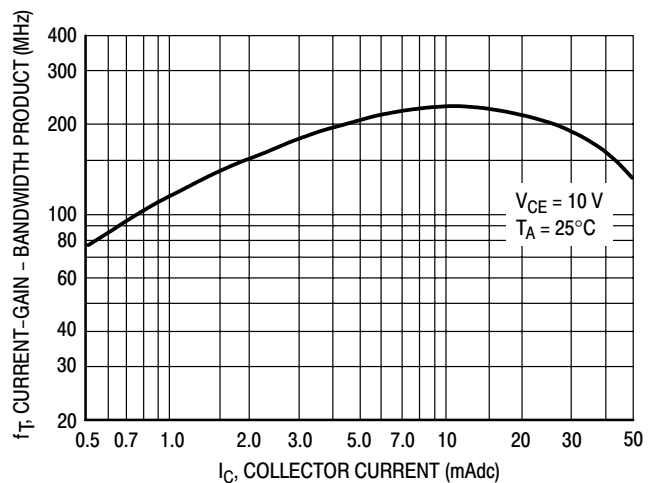
**Figure 3. Collector Saturation Region**



**Figure 4. Base-Emitter Temperature Coefficient**

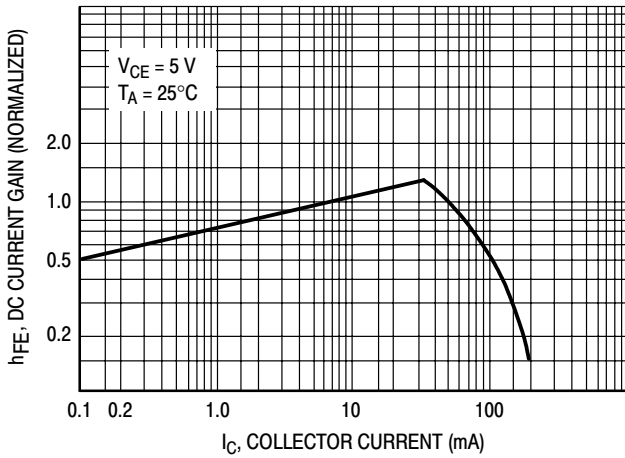


**Figure 5. Capacitances**

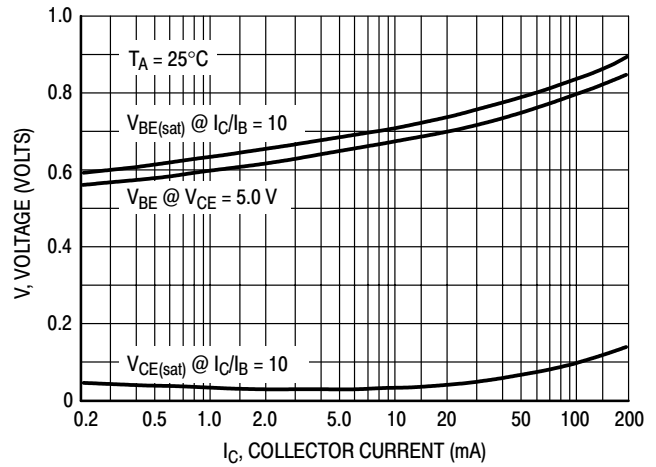


**Figure 6. Current-Gain - Bandwidth Product**

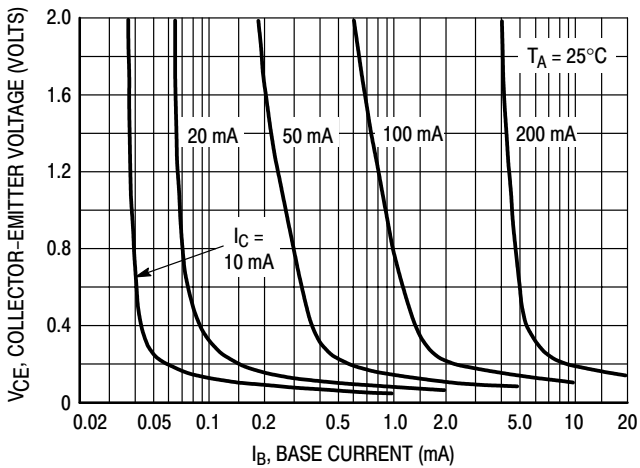
**BC546/BC547/BC548** Typical Characteristics



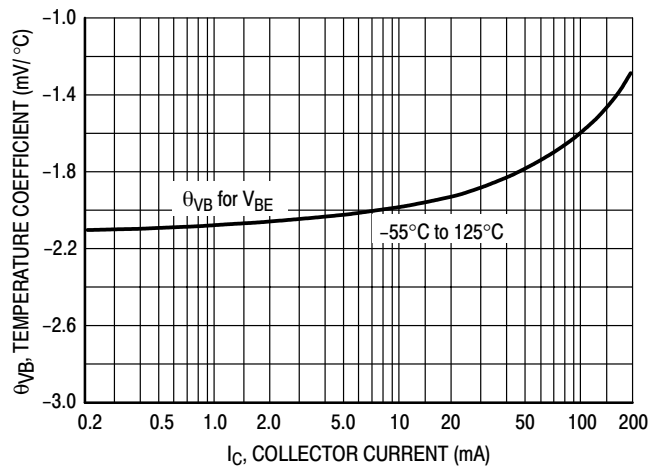
**Figure 7. DC Current Gain**



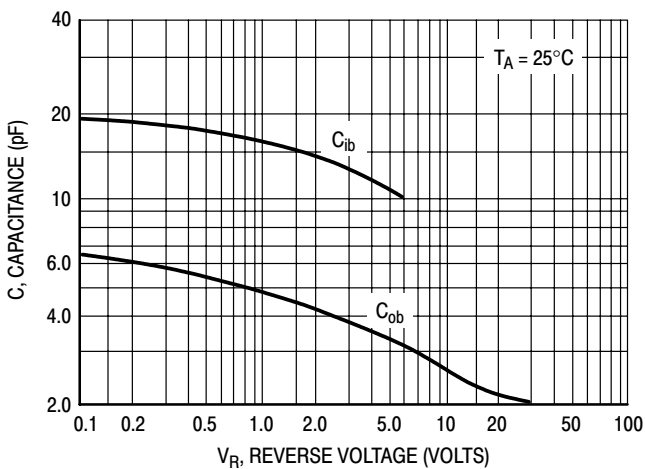
**Figure 8. "On" Voltage**



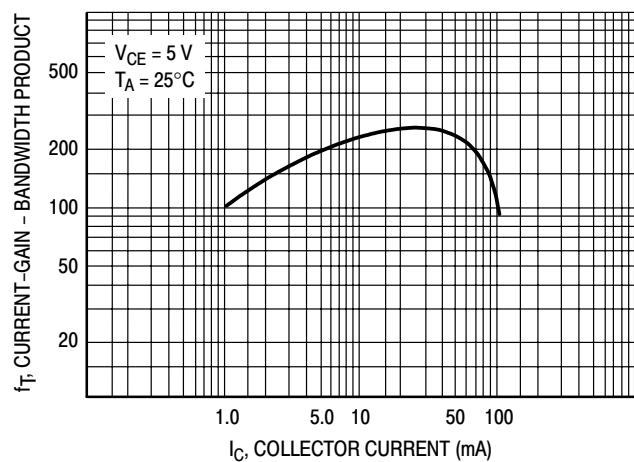
**Figure 9. Collector Saturation Region**



**Figure 10. Base-Emitter Temperature Coefficient**



**Figure 11. Capacitance**



**Figure 12. Current-Gain - Bandwidth Product**