Plastic-Encapsulate Transistors

BC556/BC557/BC558 (PNP)

FEATURES

- High Voltage
- Complement to BC546,BC547,BC548

1. COLLECTO
2. BASE
3. EMITTER

TO-92

Maximum Ratings (Ta=25 ℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BC556	-80	V
		BC557	-50	
		BC558	-30	
V_{CEO}	Collector-Emitter Voltage	BC556	-65	V
		BC557	-45	
		BC558	-30	
V_{EBO}	Emitter-Base Voltage		-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	℃/W
T_j	Junction Temperature		150	℃
T_{stg}	Storage Temperature		-55~+150	℃

Plastic-Encapsulate Transistors

BC556/BC557/BC558

ELECTRICAL CHARACTERISTICS (@ Ta=25 ℃ unless otherwise specified)

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC556	$V_{(BR)CBO}$	I_C= -0.1mA,I_E=0	-80			V
	BC557			-50			
	BC558			-30			
Collector-emitter breakdown voltage	BC556	$V_{(BR)CEO}$	I_C=-2mA,I_B=0	-65			V
	BC557			-45			
	BC558			-30			
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E=-100μA,I_C=0	-5			V
Collector cut-off current	BC556	I_{CBO}	V_{CB}=-70V,I_E=0			-0.1	μA
	BC557		V_{CB}=-45V,I_E=0			-0.1	μA
	BC558		V_{CB}=-25V,I_E=0			-0.1	μA
Collector cut-off current	BC556	I_{CEO}	V_{CE}=-60V,I_B=0			-0.1	μA
	BC557		V_{CE}=-40V,I_B=0			-0.1	μA
	BC558		V_{CE}=-25V,I_B=0			-0.1	μA
Emitter cut-off current		I_{EBO}	V_{EB}=-5V,I_C=0			-0.1	μA
DC current gain		h_{FE} *	V_{CE}=-5V, I_C=-2mA	120		800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=-10mA,I_B=-0.5mA			-0.3	V
			I_C=-100mA,I_B=-5mA			-0.65	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=-10mA,I_B=-0.5mA			-0.8	V
			I_C=-100mA,I_B=-5mA			-1	V
Base-emitter voltage		V_{BE}	V_{CE}=-5V, I_C=-2mA	-0.55		-0.7	V
			V_{CE}=-5V, I_C=-10mA			-0.82	V
Collector output capacitance		C_{ob}	V_{CB}=-10V,I_E=0, f=1MHz			6	pF
Transition frequency	BC556	f_T	V_{CE}=-5V,I_C=-10mA, f=100MHz		150		MHz
	BC557				150		MHz
	BC558				150		MHz

CLASSIFICATION of h_{FE}

RANK	A	B	C
RANGE	110-220	180-460	420-800

BC556/BC557/BC558 Typical Characteristics

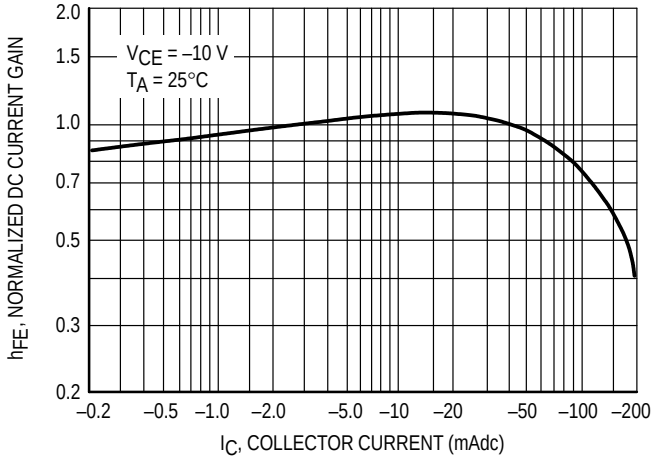

Figure 1. Normalized DC Current Gain

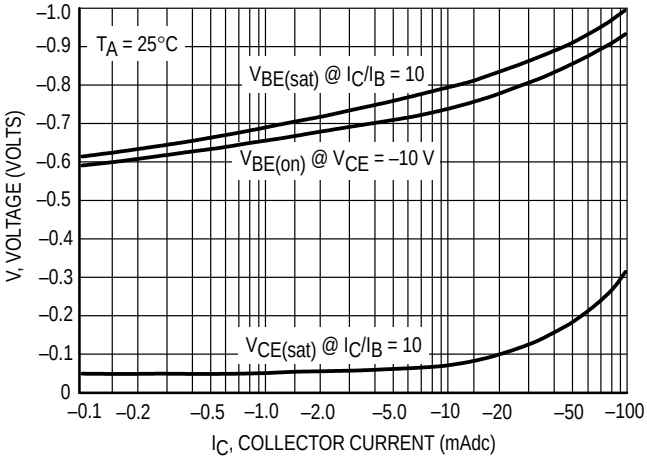

Figure 2. "Saturation" and "On" Voltages

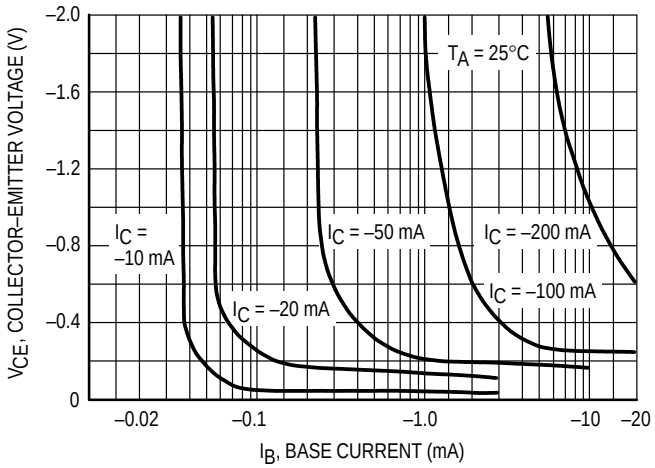

Figure 3. Collector Saturation Region

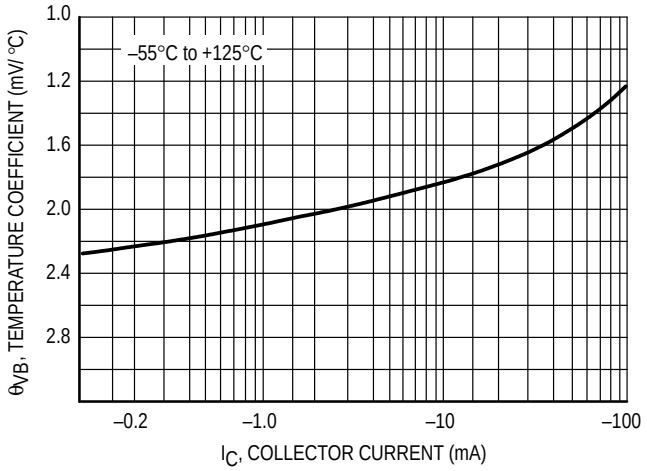

Figure 4. Base–Emitter Temperature Coefficient

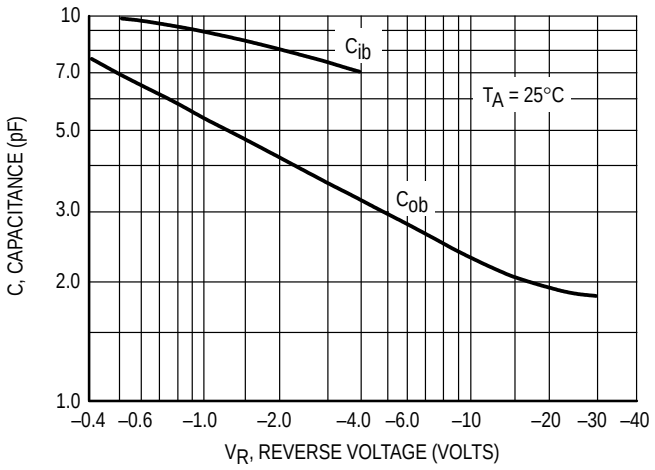

Figure 5. Capacitances

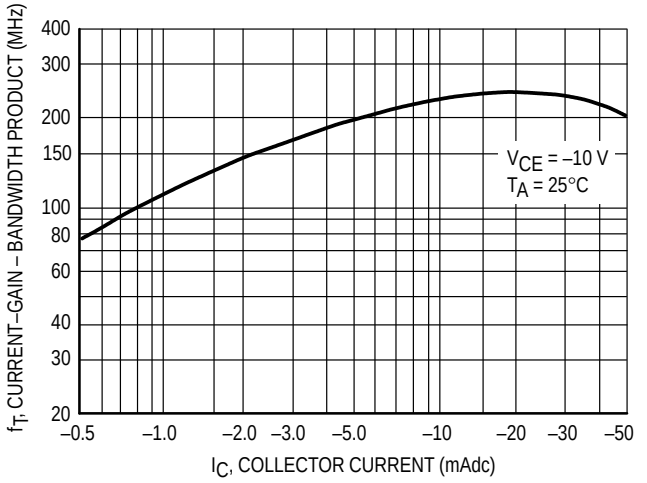

Figure 6. Current–Gain – Bandwidth Product

BC556/BC557/BC558 Typical Characteristics

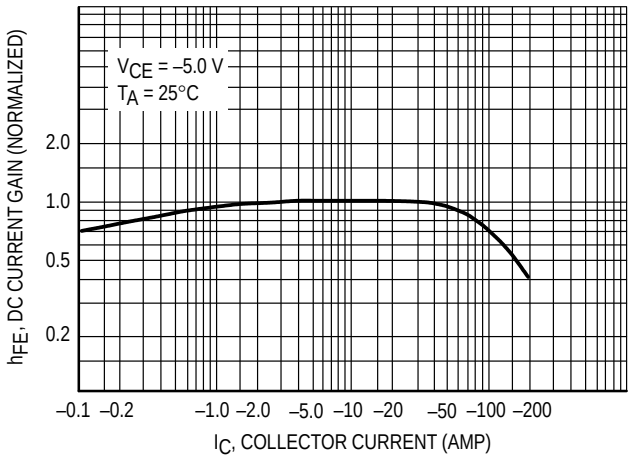

Figure 7. DC Current Gain

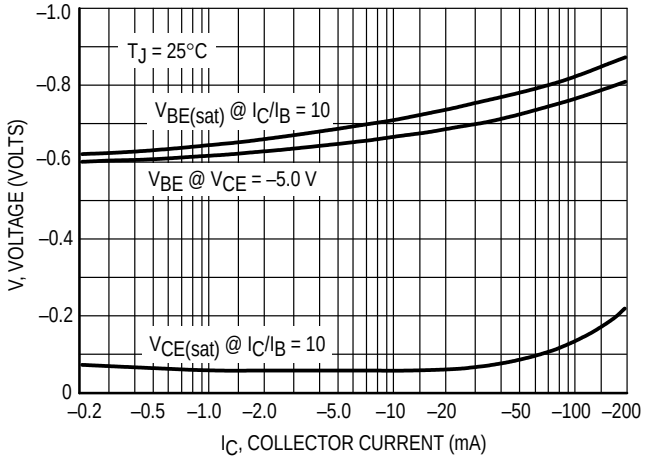

Figure 8. "On" Voltage

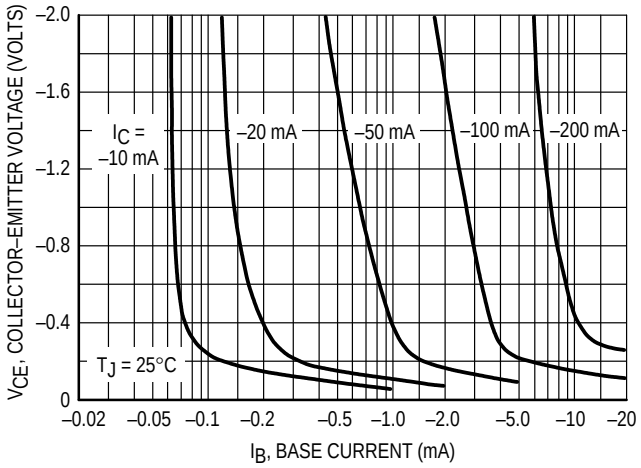

Figure 9. Collector Saturation Region

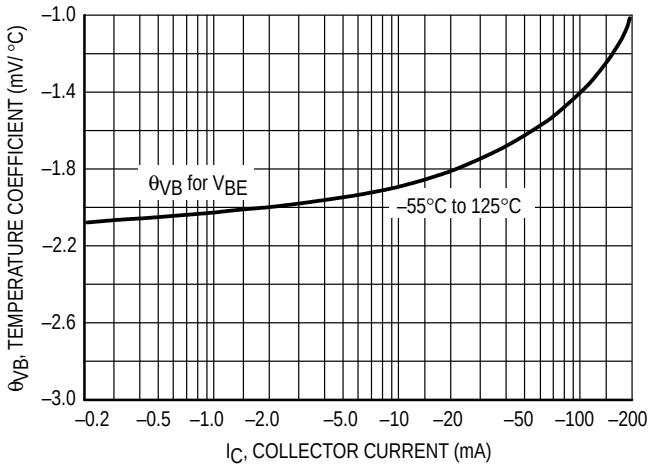

Figure 10. Base–Emitter Temperature Coefficient

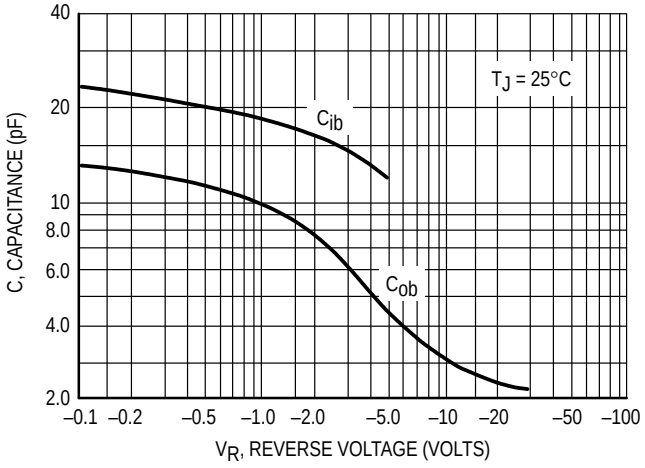

Figure 11. Capacitance

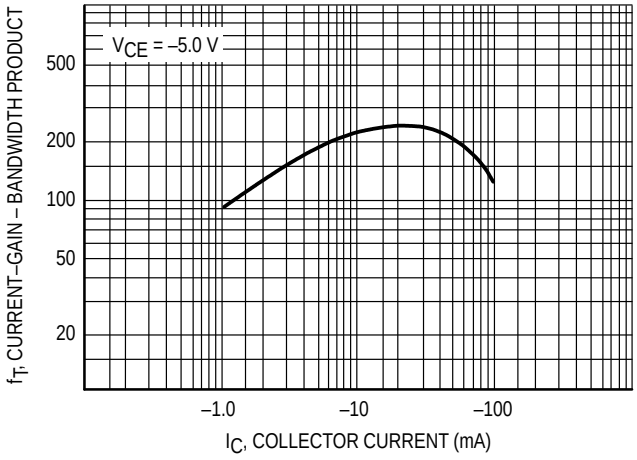

Figure 12. Current–Gain – Bandwidth Product