



SEMICONDUCTOR

BC856A-BC858C

Shandong Yiguang Electronic Joint stock Co., Ltd

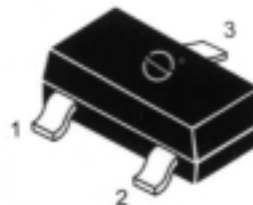
TECHNICAL DATA

PNP EPITAXIAL SILICON TRANSISTOR

SURFACE MOUNT SMALL SIGNAL TRANSISTORS

- * Epitaxial Die Construction
- * Ideally Suited Automatic Insertion
- * 310mW Power Dissipation
- * Complementary PNP types Available(BC846-BC848)
- * For Switching and AF Amplifier Applications

Package:SOT-23

**ABSOLUTE MAXIMUM RATINGS at Ta=25**

Characteristic	Symbol	Rating	Unit	
Collector-Base Voltage	BC856	-80	V	
	BC857	Vcbo		-50
	BC858	-30		
Collector-Emitter Voltage	BC856	-65	V	
	BC857	Vceo		-45
	BC858	-30		
Emitter-Base Voltage	BC856	-5.0	V	
	BC857	Vebo		-5.0
	BC858	-5.0		
Collector Current	Ic	-100	mA	
Collector Dissipation Ta=25 *	P _D	310	mW	
Junction Temperature	T _j	150		
Storage Temperature	T _{stg}	-65-150		

PIN:	1	2	3
STYLE			
NO.1	B	E	C

ELECTRICAL CHARACTERISTICS at Ta=25

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BC856	BVcbo	-80		V	Ic=-10uA Ie=0
	BC857		-50			
	BC858		-30			
Collector-Emitter Breakdown Voltage	BC856	BVceo	-65		V	Ic= -10mA Ib=0
	BC857		-45			
	BC858		-30			
Emitter-Base Breakdown Voltage	BVebo	-5			V	Ie= -1.uA Ic=0



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ELECTRICAL CHARACTERISTICS at Ta=25 (CONTINUED)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
DC Current Gain			90			Vce=-5.0V Ic=-10uA Vce=-5.0V Ic=-2.0mA
Current Gain GroupA			150			
B	H _{FE}		270			
C			125	180	250	
Current Gain GroupA			220	290	475	
B			420	520	800	
C						
Collector-Emitter Saturation Voltage	Vce(sat)			-300 -650	mV mV	Ic= -10mA Ib= -0.5mA Ic= -100mA Ib= -5.0mA
Base-Emitter Saturation Voltage	Vbe(sat)		-700 -900		mV	Ic= -10mA Ib= -0.5mA Ic= -100mA Ib= -5.0mA
Base-Emitter Voltage	Vbe(on)	-600		-750 -820	mV	Vce= -5.0V Ic= -2.0mA Vce= -5.0V Ic= -10mA
Output Capacitance	Cob		3.5	6.0	PF	Vcb= -10V f=1MHz
Gain Bandwidth Product	fT		100		MHz	Vce=-5V Ic=-10mA f=100MHz
Noise Figure	NF			10	dB	Vce= -5V Ic= -200uA R _s =2K f=1MHz f=200Hz

* Total Device Dissipation : FR=1x0.75x0.062in Board,Derate 25 .

Pulse Test : Pulse Width 300uS,Duty cycle 2%

DEVICE MARKING:

BC856ALT1=3A

BC856BLT1=3B

BC857ALT1=3E

BC857BLT1=3F

BC857CLT1=3G

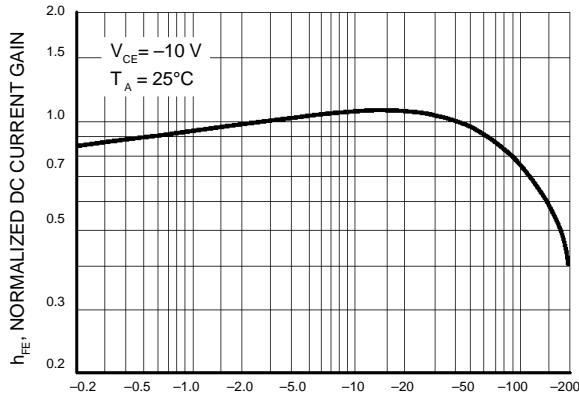
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BC858BLT1=3K

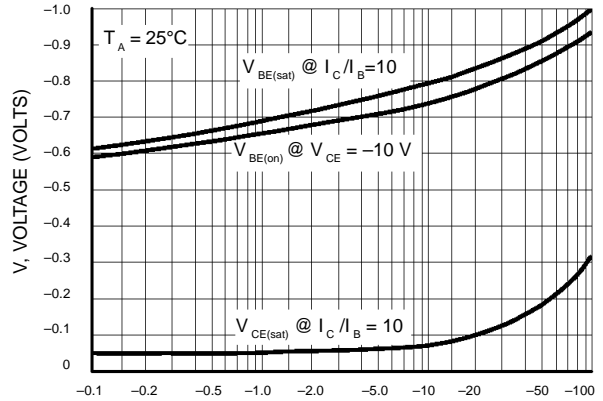
BC858CLT1=3L



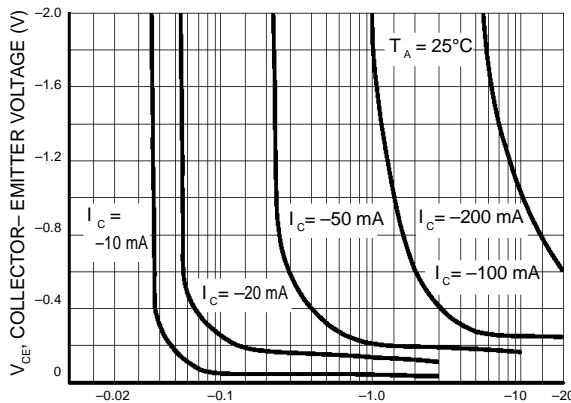
BC857/BC858



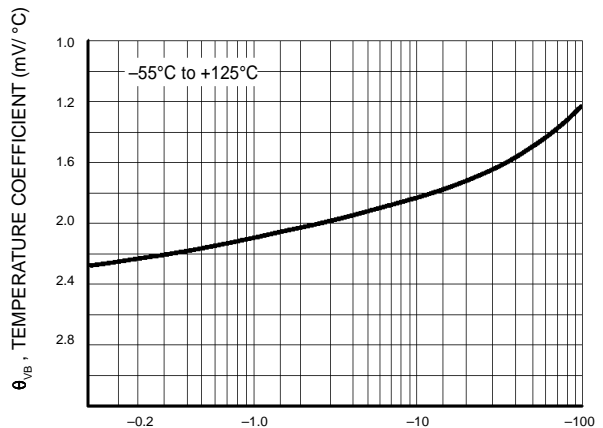
I_C, COLLECTOR CURRENT (mA)
Figure 1. Normalized DC Current Gain



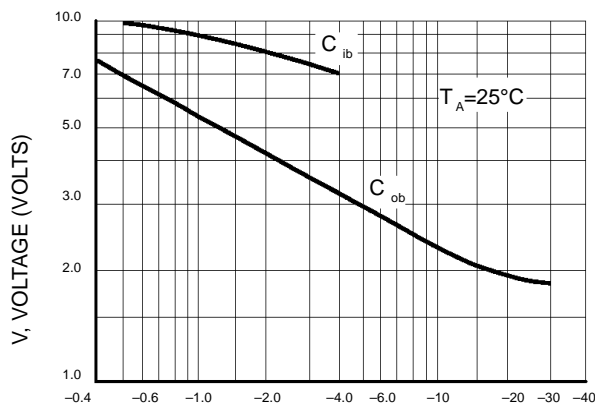
I_C, COLLECTOR CURRENT (mA)
Figure 2. "Saturation" and "On" Voltages



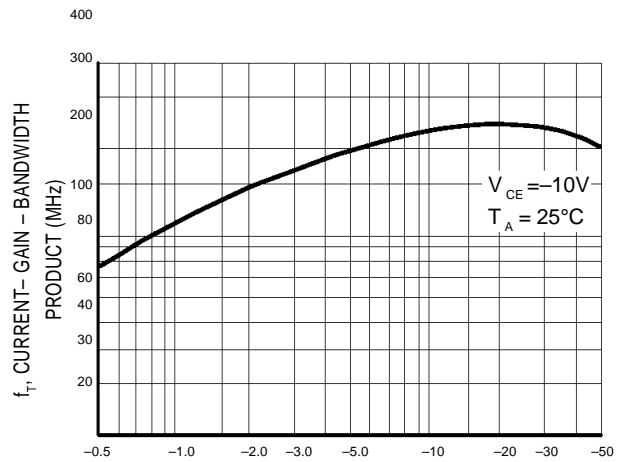
I_B, BASE CURRENT (mA)
Figure 3. Collector Saturation Region



I_C, COLLECTOR CURRENT (mA)
Figure 4. Base-Emitter Temperature Coefficient



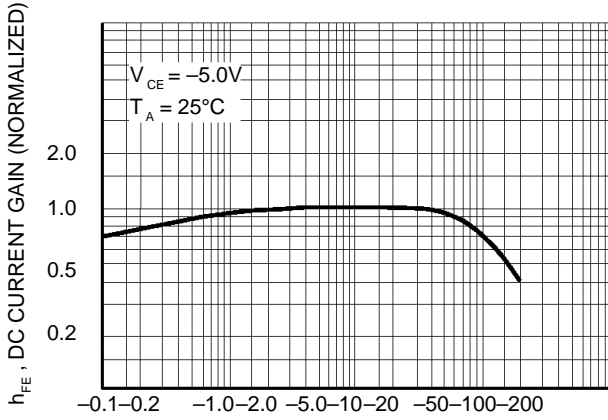
V_R, REVERSE VOLTAGE (VOLTS)
Figure 5. Capacitances



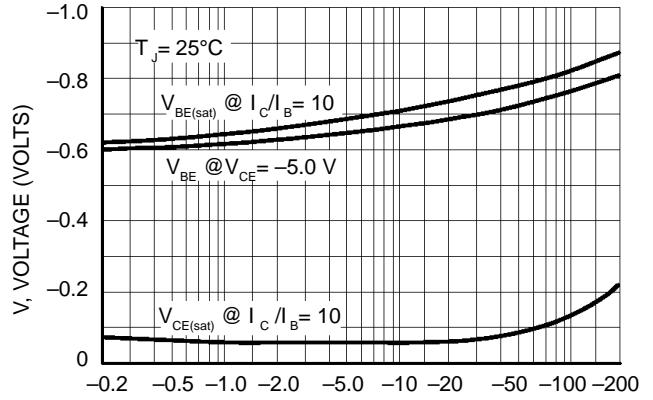
I_C, COLLECTOR CURRENT (mA)
Figure 6. Current-Gain - Bandwidth Product



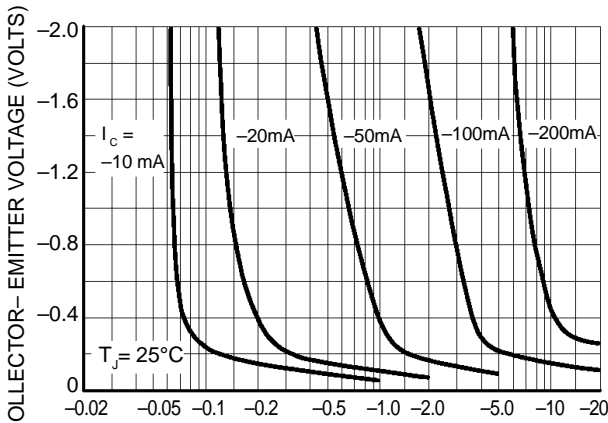
BC856



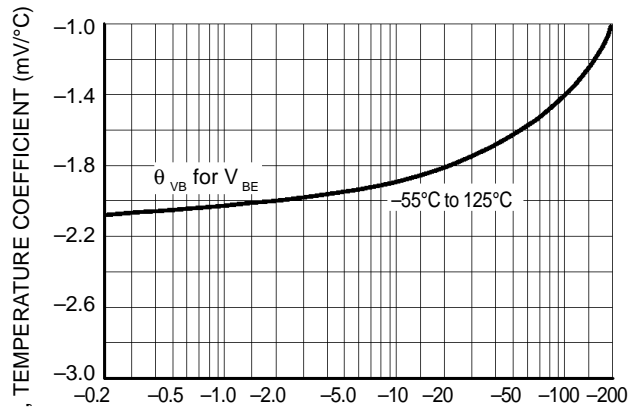
I_C, COLLECTOR CURRENT (mA)
Figure 7. DC Current Gain



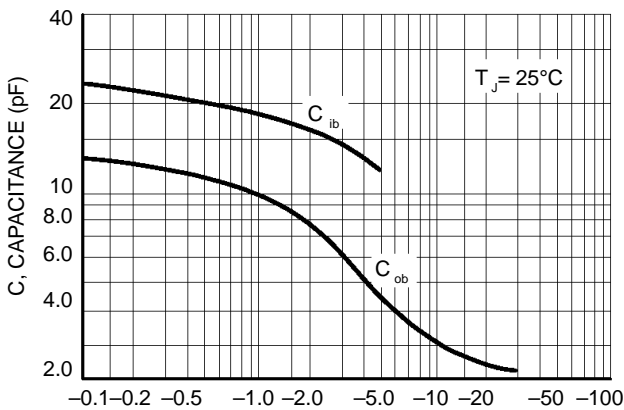
I_C, COLLECTOR CURRENT (mA)
Figure 8. "On" Voltage



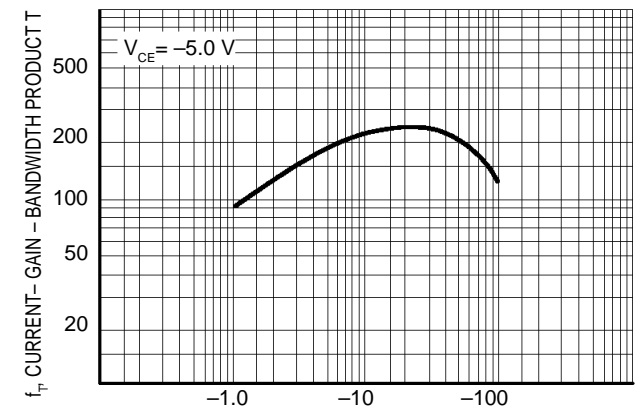
I_B, BASE CURRENT (mA)
Figure 9. Collector Saturation Region



I_C, COLLECTOR CURRENT (mA)
Figure 10. Base-Emitter Temperature Coefficient



V_R, REVERSE VOLTAGE (VOLTS)
Figure 11. Capacitance



I_C, COLLECTOR CURRENT (mA)
Figure 12. Current-Gain - Bandwidth Product



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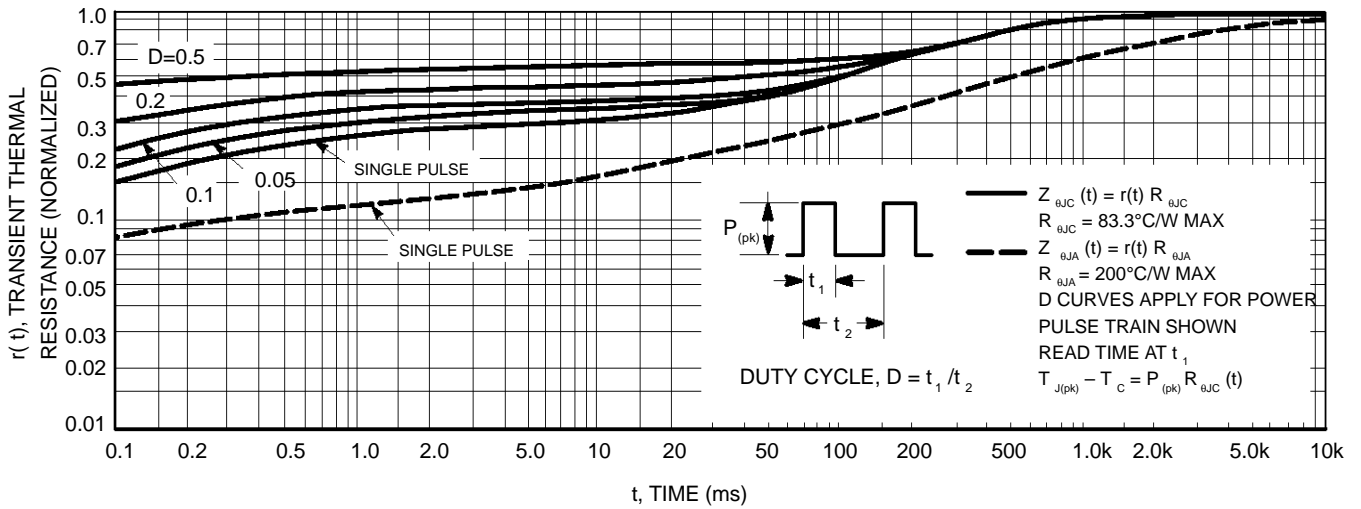


Figure 13. Thermal Response

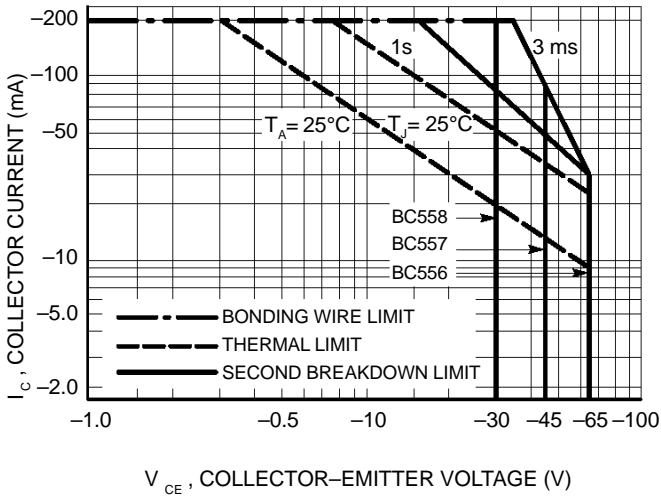


Figure 14. Active Region Safe Operating Area