



FUKUCOM COMPANY LTD.

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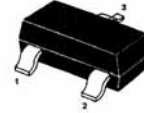
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

BC856 ~ BC858

PNP Epitaxial Silicon Transistor

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



1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Absolute Maximum Ratings Ta=25°C unless otherwise noted

Symbol	Characteristic	Value	Units
V _{CBO}	Collector-Base Voltage		
	BC856	-80	V
	BC857	-50	V
	BC858	-30	V
V _{CEO}	Collector-Emitter Voltage		
	BC856	-65	V
	BC857	-45	V
	BC858	-30	V
V _{EBO}	Emitter-Base Voltage		
	BC856	-5	V
	BC857	-5	V
	BC858	-5	V
I _c	Collector Current	-100	mA
P _D	Collector Dissipation Ta=25°C*	310	mW
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-65~150	°C

Electrical Characteristics Ta=25°C unless otherwise noted

Symbol	Characteristic	Test Condition	Min.	Typ.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage	I _C =-10 μA, I _E =0				
	BC856		-80			V
	BC857		-50			V
	BC858		-30			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C =-10mA, I _B =0				
	BC856		-65			V
	BC857		-45			V
	BC858		-30			V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E =-1 μA, I _C =0	-5			V



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h_{FE}	DC Current Gain Group A Group B Group C	$V_{CE}=5V, I_C=-10\mu A$			90 150 270	
h_{FE}	DC Current Gain Group A Group B Group C	$V_{CE}=5V, I_C=-2mA$	125 220 420	180 290 520	250 475 800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=-10mA, I_B=-0.5mA$ $I_C=-100mA, I_B=-5mA$			-300 -650	mV mV
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=-10mA, I_B=-0.5mA$ $I_C=-100mA, I_B=-5mA$		-700 -900		mV mV
$V_{BE(ON)}$	Base-Emitter On Voltage	$V_{CE}=-5V; I_C=-2mA$ $V_{CE}=-5V; I_C=-10mA$	-600		-750 -820	mV mV
C_{OB}	Output Capacitance	$V_{CB}=-10V; I_E=0 f=MHz$		3.5	6.0	pf
NF	Noise Figure	$V_{CE}=-5V, I_C=-200\mu A$ $R_s=2K\Omega$ $f=100MHz \Delta f=200Hz$			10	dB
f_T	Gain-Bandwidth Product	$V_{CE}=-5V, I_C=-10mA$ $f=100MHz$		100		MHz

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

Pulse Test : Pulse Width $\leq 300\mu S$, Duty cycle $\leq 2\%$

Marking :

BC856A : 3A
BC856B : 3B
BC857A : 3E
BC857B : 3F
BC857C : M7
BC858A : 3J
BC858B : 3K
BC858C : 3L



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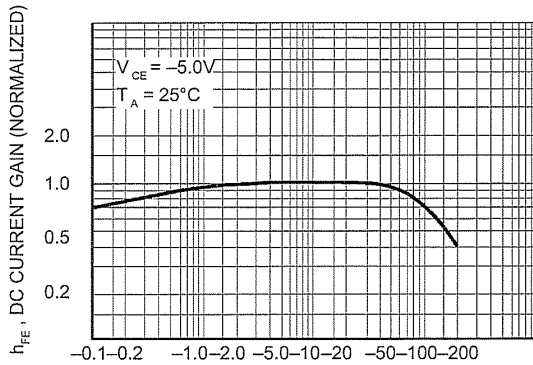
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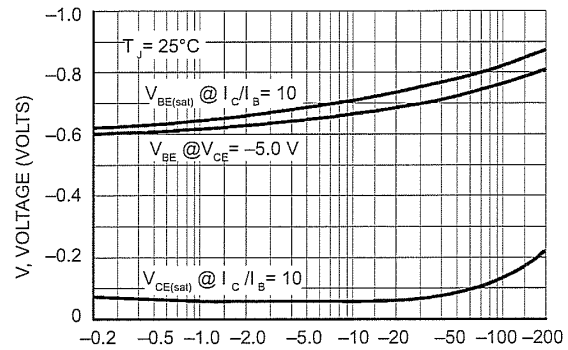
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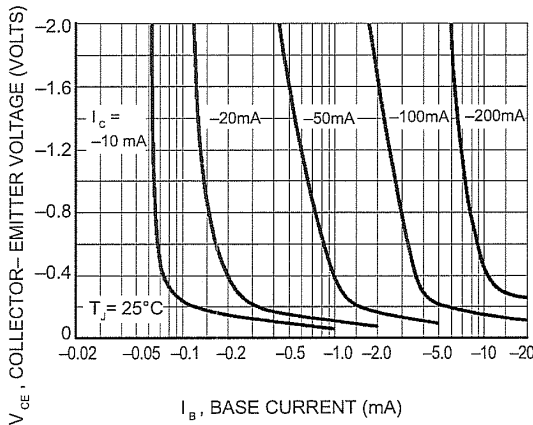
BC856



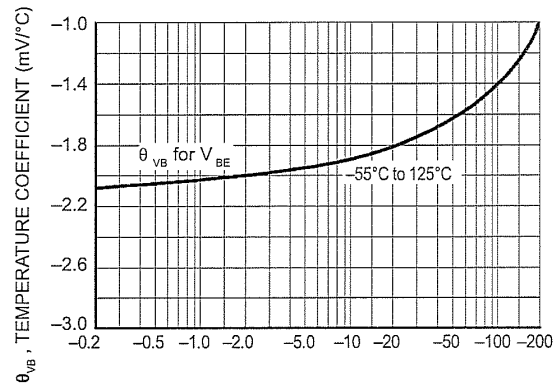
I_C , COLLECTOR CURRENT (mA)
Figure 7. DC Current Gain



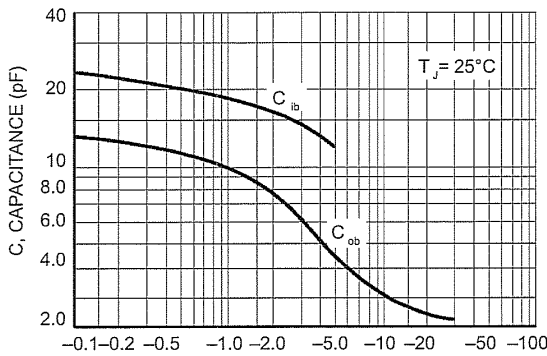
I_C , COLLECTOR CURRENT (mA)
Figure 8. "On" Voltage



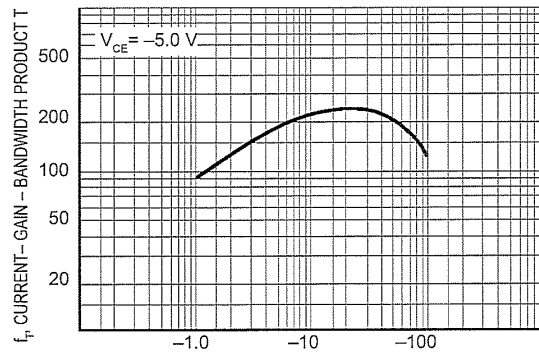
I_B , BASE CURRENT (mA)
Figure 9. Collector Saturation Region



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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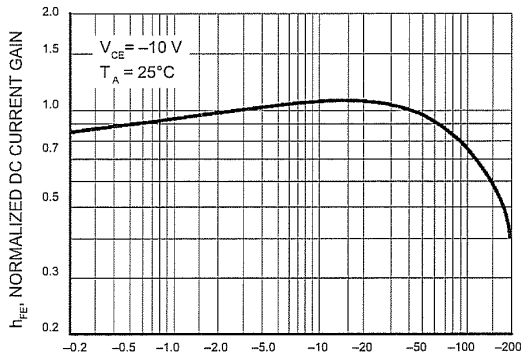
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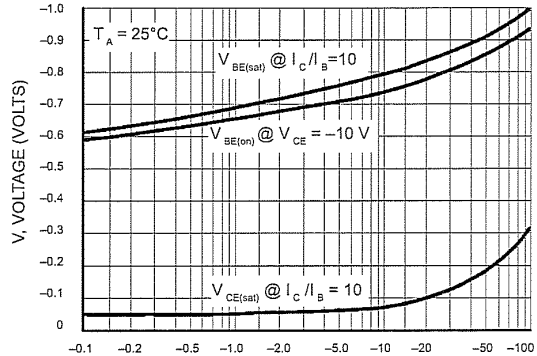
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BC856 ~ BC858

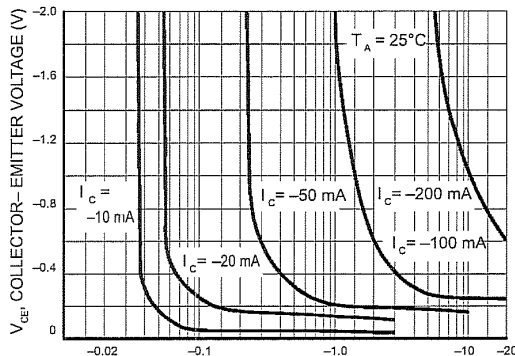
BC857/BC858



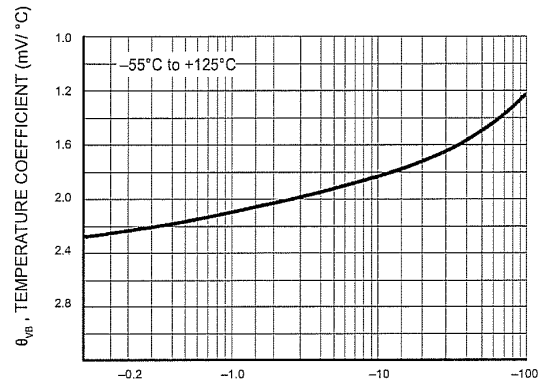
I_C , COLLECTOR CURRENT (mAdc)
Figure 1. Normalized DC Current Gain



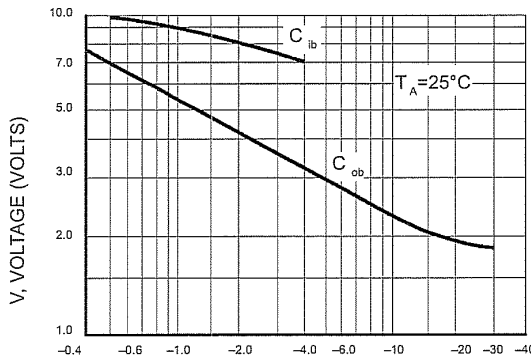
I_C , COLLECTOR CURRENT (mAdc)
Figure 2. "Saturation" and "On" Voltages



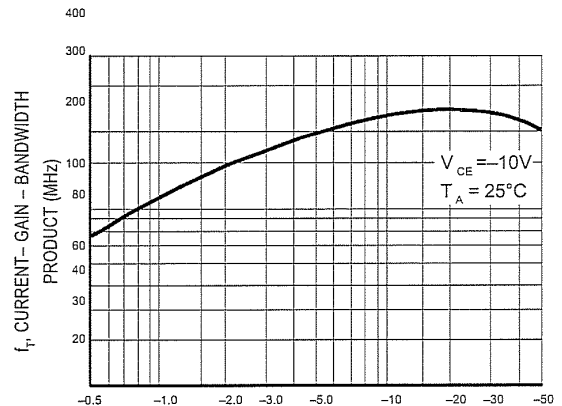
I_B , BASE CURRENT (mA)
Figure 3. Collector Saturation Region



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



V_R , REVERSE VOLTAGE (VOLTS)
Figure 5. Capacitances



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



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BC856 ~ BC858

BC856A-BC858C

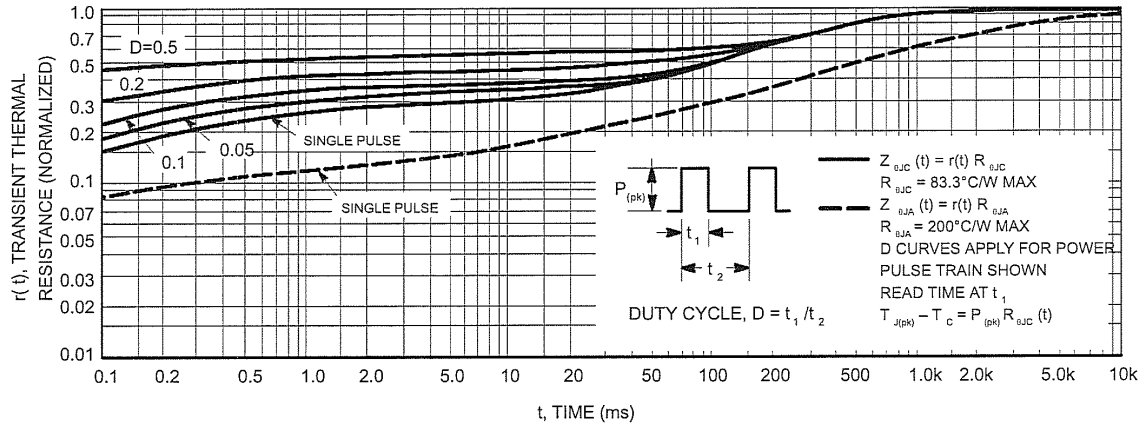


Figure 13. Thermal Response

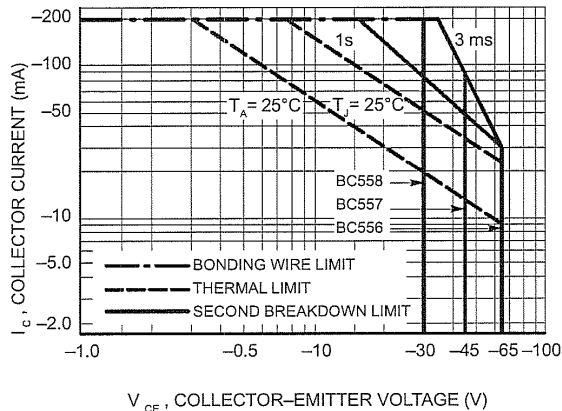


Figure 14. Active Region Safe Operating Area