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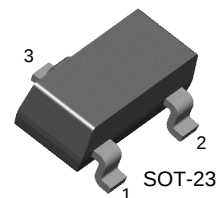
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BC856- BC860

PNP Epitaxial Silicon Transistor

Features

- Switching and Amplifier Applications
- Suitable for automatic insertion in thick and thin-film circuits
- Low Noise: BC859, BC860
- Complement to BC846 ... BC850



1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings* T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage		
	: BC856	-80	V
	: BC857/860	-50	V
	: BC858/859	-30	V
V _{CEO}	Collector-Emitter Voltage		
	: BC856	-65	V
	: BC857/860	-45	V
	: BC858/859	-30	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current (DC)	-100	mA
P _C	Collector Power Dissipation	310	mW
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-65 ~ 150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Electrical Characteristics* T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I _{CBO}	Collector Cut-off Current	V _{CB} = -30V, I _E = 0			-15	nA
h _{FE}	DC Current Gain	V _{CE} = -5V, I _C = -2mA	110		800	
V _{CE} (sat)	Collector-Emitter Saturation Voltage	I _C = -10mA, I _B = -0.5mA		-90	-300	mV
		I _C = -100mA, I _B = -5mA		-250	-650	mV
V _{BE} (sat)	Base-Emitter Saturation Voltage	I _C = -10mA, I _B = -0.5mA		-700		mV
		I _C = -100mA, I _B = -5mA		-900		mV
V _{BE} (on)	Base-Emitter On Voltage	V _{CE} = -5V, I _C = -2mA	-600	-660	-750	mV
		V _{CE} = -5V, I _C = -10mA			-800	mV
f _T	Current Gain Bandwidth Product	V _{CE} = -5V, I _C = -10mA f = 100MHz		150		MHz
C _{ob}	Output Capacitance	V _{CB} = -10V, I _E = 0, f = 1MHz			6	pF
NF	Noise Figure					
	: BC856/857/858	V _{CE} = -5V, I _C = -200μA		2	10	dB
	: BC859/860	R _G = 2KΩ, f = 1KHz		1	4	dB
	: BC859	V _{CE} = -5V, I _C = -200μA		1.2	4	dB
	: BC860	R _G = 2KΩ, f = 30~15000Hz		1.2	2	dB

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

h_{FE} Classification

Classification	A	B	C
h _{FE}	110 ~ 220	200 ~ 450	420 ~ 800

Ordering Information

Device(note1)	Device Marking	Package	Packing Method	Qty(pcs)	Pin Difinitions
BC856AMTF	9AA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC856BMTF	9AB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC856CMTF	9AC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC857AMTF	9BA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC857BMTF	9BB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC857CMTF	9BC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC858AMTF	9CA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC858BMTF	9CB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC858CMTF	9CC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC859AMTF	9DA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC859BMTF	9DB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC859CMTF	9DC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC860AMTF	9EA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC860BMTF	9EB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC860CMTF	9EC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector

Note1: Affix "-A,-B,-C" means h_{FE} classification.

Affix "-M" means the matte type package.

Affix "-TF" means the tape & reel type packing.

Typical Performance Characteristics

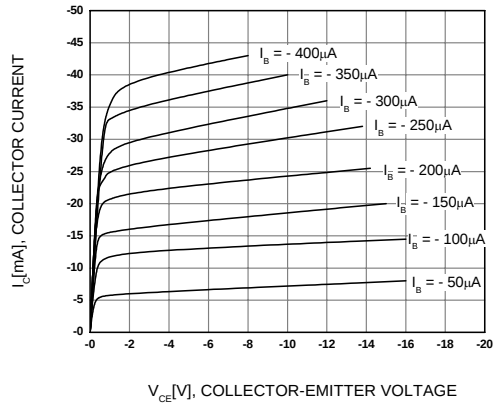


Figure 1. Static Characteristic

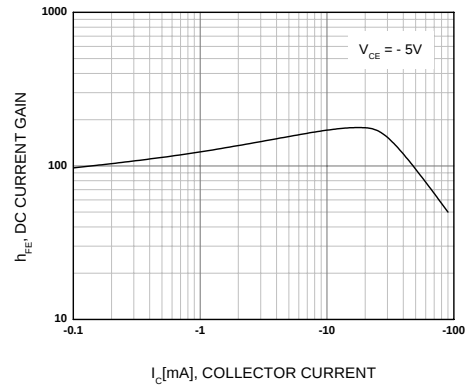


Figure 2. DC current Gain

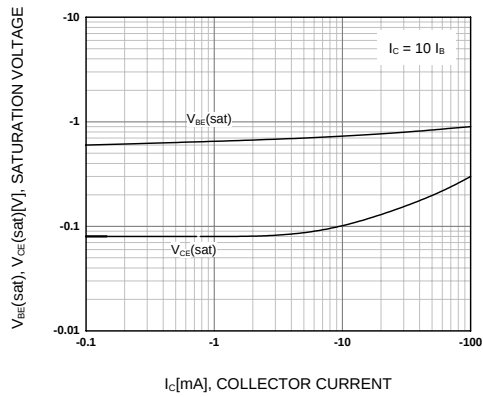


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

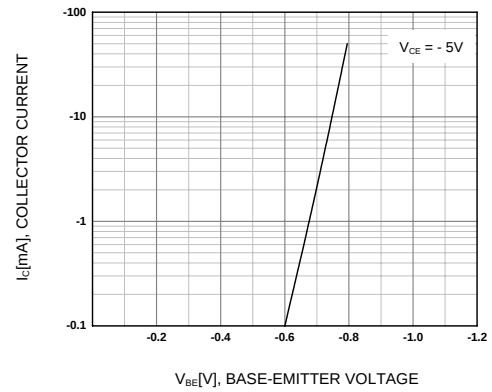


Figure 4. Base-Emitter On Voltage

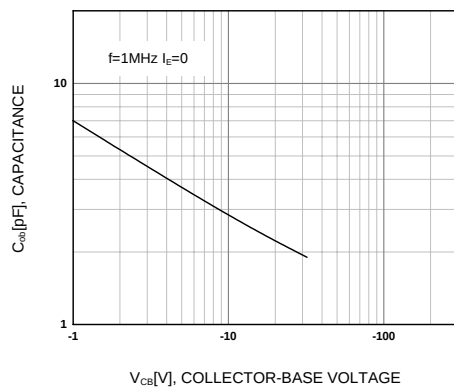


Figure 5. Collector Output Capacitance

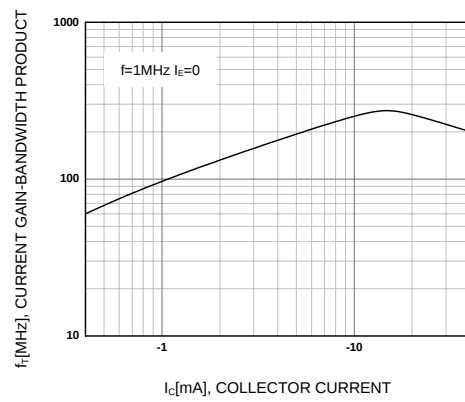
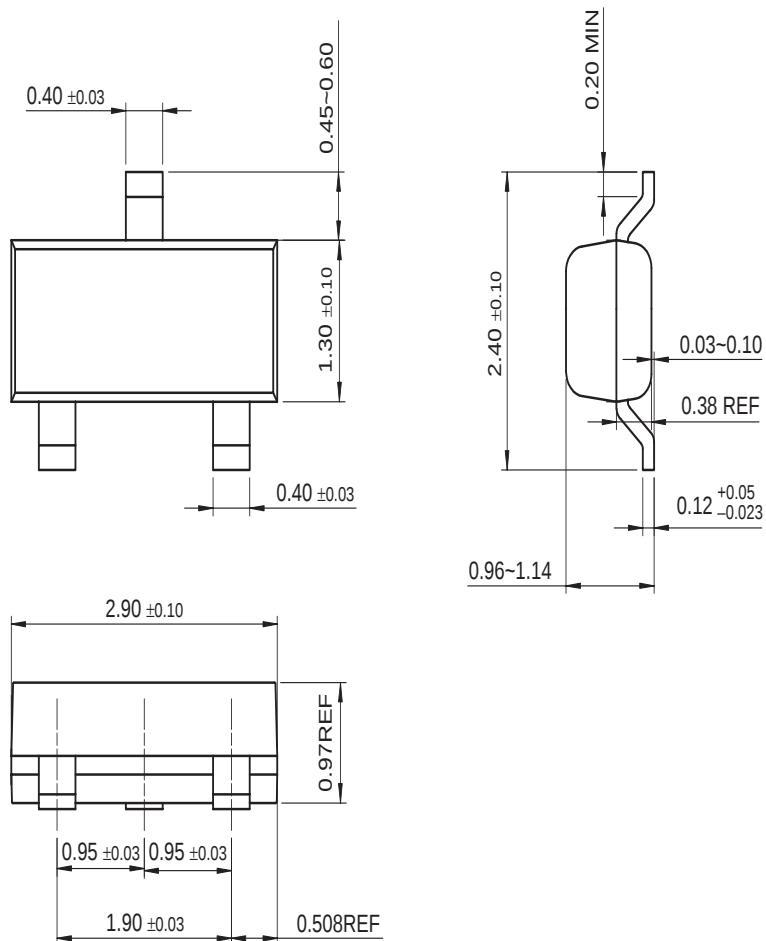


Figure 6. Current Gain Bandwidth Product

Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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