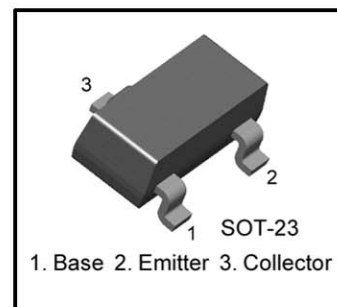


## ● Switching and Amplifier Applications

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



## PNP Epitaxial Silicon Transistor

### ● Absolute Maximum Ratings $T_a=25^{\circ}\text{C}$ 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	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature	-65 ~ 150	$^{\circ}\text{C}$

### ● Electrical Characteristics $T_a=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -30\text{V}, I_E = 0$			-15	nA
$h_{FE}$	DC Current Gain	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	110		800	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$		-90	-300	mV
		$I_C = -100\text{mA}, I_B = -5\text{mA}$		-250	-650	mV
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -0.5\text{mA}$		-700		mV
		$I_C = -100\text{mA}, I_B = -5\text{mA}$		-900		mV
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$	-600	-660	-750	mV
		$V_{CE} = -5\text{V}, I_C = -10\text{mA}$			-800	mV
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$		150		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$			6	pF
NF	Noise Figure	: BC856/857/858		2	10	dB
		: BC859/860		1	4	dB
		: BC859	$V_{CE} = -5\text{V}, I_C = -200\mu\text{A}$ $f = 1\text{KHz}, R_G = 2\text{K}\Omega$	1.2	4	dB
		: BC860	$V_{CE} = -5\text{V}, I_C = -200\mu\text{A}$ $R_G = 2\text{K}\Omega, f = 30 \sim 15000\text{Hz}$	1.2	2	dB

### ● $h_{FE}$ Classification

Classification	A	B	C
$h_{FE}$	110 ~ 220	200 ~ 450	420 ~ 800

## Typical Characteristics

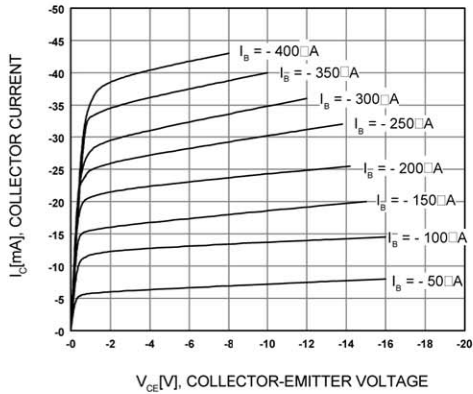


Figure 1. Static Characteristic

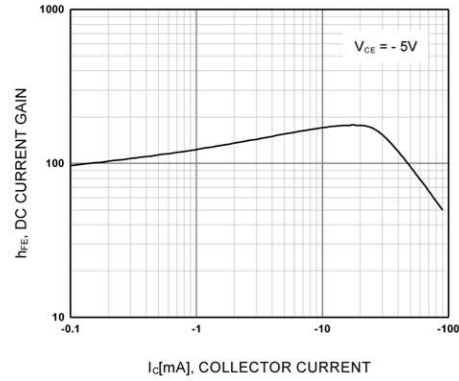


Figure 2. DC current Gain

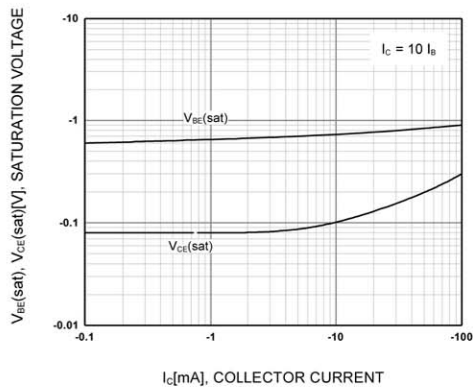


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

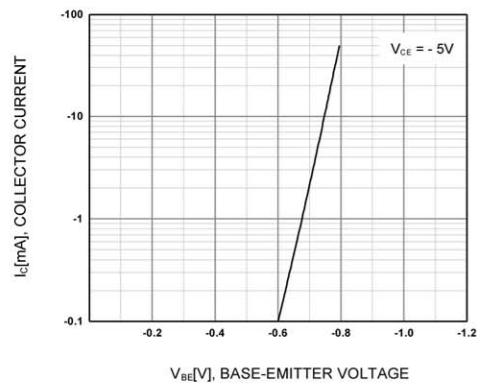


Figure 4. Base-Emitter On Voltage

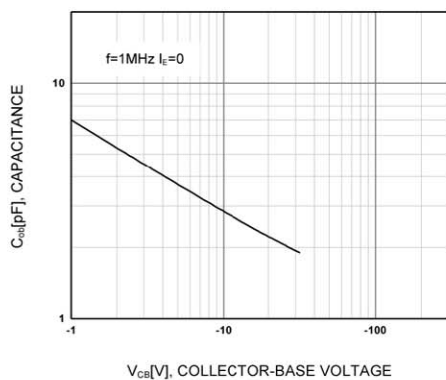


Figure 5. Collector Output Capacitance

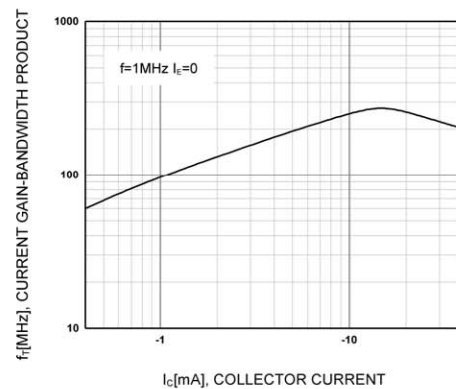
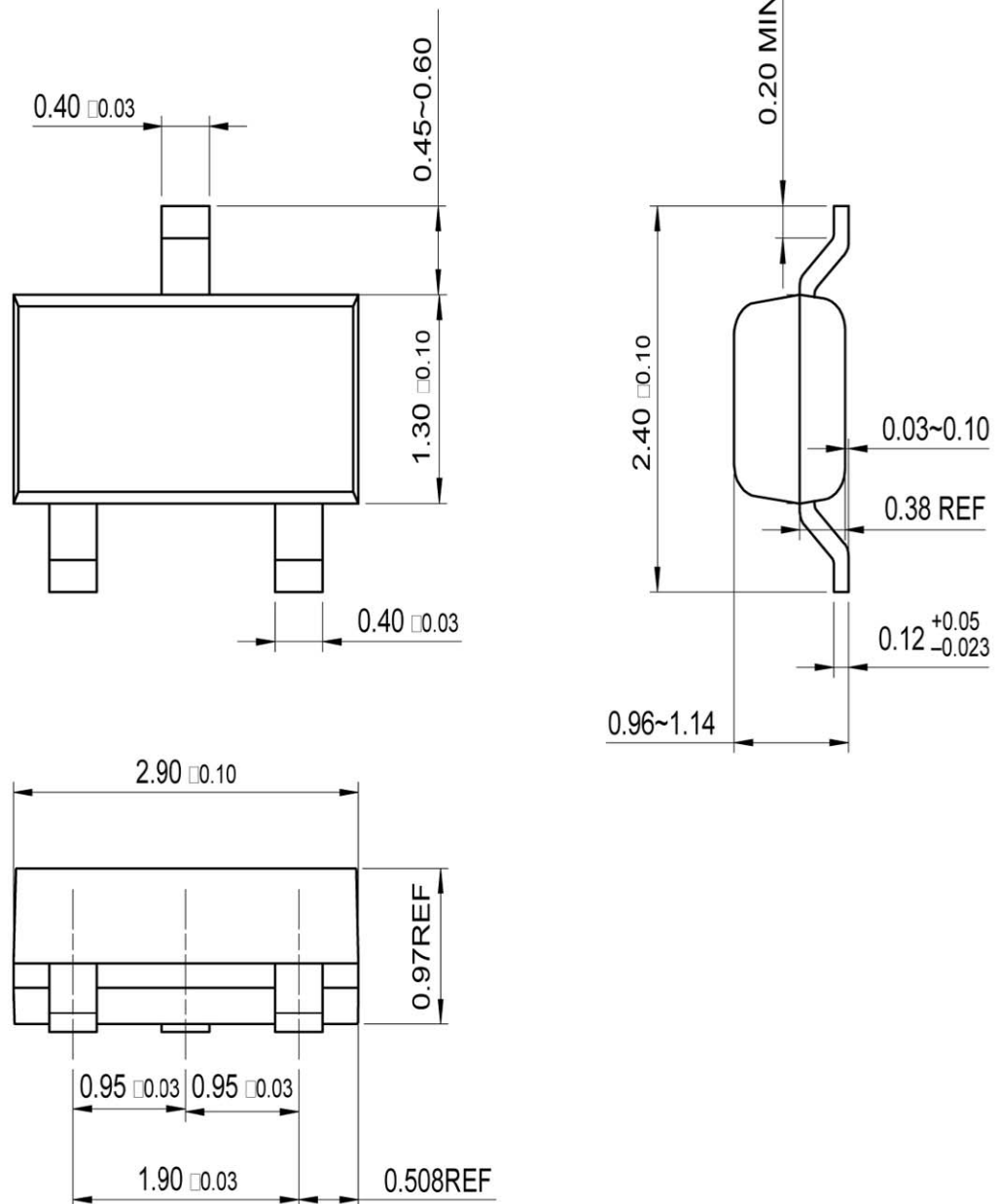


Figure 6. Current Gain Bandwidth Product

## Package Dimensions

### SOT-23



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