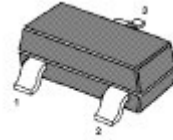


## BC856...BC860 PNP Silicon Epitaxial Transistor

for switching and amplifier applications



1. BASE 2. EMITTER 3. COLLECTOR  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit	
Collector Base Voltage	BC856	$-V_{CBO}$	80	V
	BC857, BC860	$-V_{CBO}$	50	V
	BC858, BC859	$-V_{CBO}$	30	V
Collector Emitter Voltage	BC856	$-V_{CEO}$	65	V
	BC857, BC860	$-V_{CEO}$	45	V
	BC858, BC859	$-V_{CEO}$	30	V
Emitter Base Voltage	$-V_{EBO}$	5	V	
Collector Current	$-I_C$	100	mA	
Peak Collector Current	$-I_{CM}$	200	mA	
Power Dissipation	$P_{tot}$	200	mW	
Junction Temperature	$T_j$	150	$^\circ\text{C}$	
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$	

### DEVICE MARKING

BC856A=3A;BC856B=3B;BC856C=3C;  
BC857A=3E;BC857B=3F;BC857C=3G;  
BC858A=3J; BC858B=3H; BC858C=3D  
BC859A=4A;BC859B=4B;BC859C=4C;  
BC860A=4E;BC860B=4F;BC860C=4G;

**Characteristics at  $T_a = 25\text{ }^\circ\text{C}$**

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $-V_{CE} = 5\text{ V}$ , $-I_C = 2\text{ mA}$	Current Gain Group A	$h_{FE}$	110	220	-
	B	$h_{FE}$	200	450	-
	C	$h_{FE}$	420	800	-
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	15	nA	
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856	$-V_{(BR)CBO}$	80	-	V
	BC857, BC860	$-V_{(BR)CBO}$	50	-	V
	BC858, BC859	$-V_{(BR)CBO}$	30	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856	$-V_{(BR)CES}$	80	-	V
	BC857, BC860	$-V_{(BR)CES}$	50	-	V
	BC858, BC859	$-V_{(BR)CES}$	30	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	BC856	$-V_{(BR)CEO}$	65	-	V
	BC857, BC860	$-V_{(BR)CEO}$	45	-	V
	BC858, BC859	$-V_{(BR)CEO}$	30	-	V
Emitter Base Breakdown Voltage at $-I_E = 1\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V	
Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$ , $-I_B = 0.5\text{ mA}$ at $-I_C = 100\text{ mA}$ , $-I_B = 5\text{ mA}$	$-V_{CE(sat)}$	-	0.3	V	
	$-V_{CE(sat)}$	-	0.65	V	
Base Emitter On Voltage at $-I_C = 2\text{ mA}$ , $-V_{CE} = 5\text{ V}$ at $-I_C = 10\text{ mA}$ , $-V_{CE} = 5\text{ V}$	$-V_{BE(on)}$	0.6	0.75	V	
	$-V_{BE(on)}$	-	0.82	V	
Current Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$ , $-I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	100	-	MHz	
Output Capacitance at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	6	pF	
Noise Figure at $-I_C = 200\text{ }\mu\text{A}$ , $-V_{CE} = 5\text{ V}$ , $R_G = 2\text{ K}\Omega$ , $f = 1\text{ KHz}$ at $-I_C = 200\text{ }\mu\text{A}$ , $-V_{CE} = 5\text{ V}$ , $R_G = 2\text{ K}\Omega$ , $f = 30\text{ } \sim 15\text{ KHz}$	BC856, BC857, BC858	NF	-	10	dB
	BC859, BC860	NF	-	4	
	BC859	NF	-	4	
	BC860	NF	-	2	

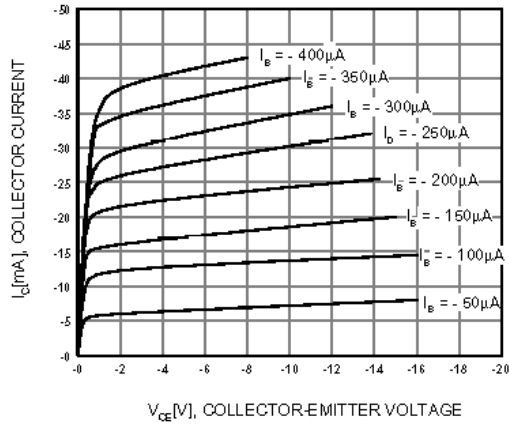


Figure 1. Static Characteristic

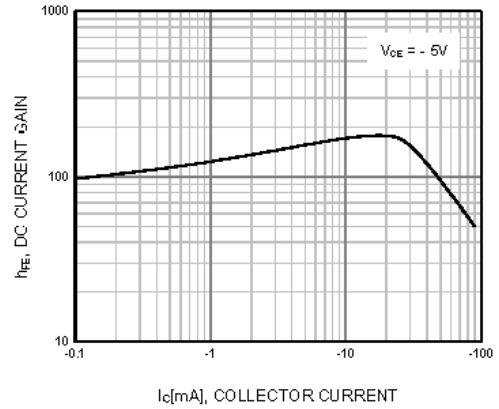


Figure 2. DC current Gain

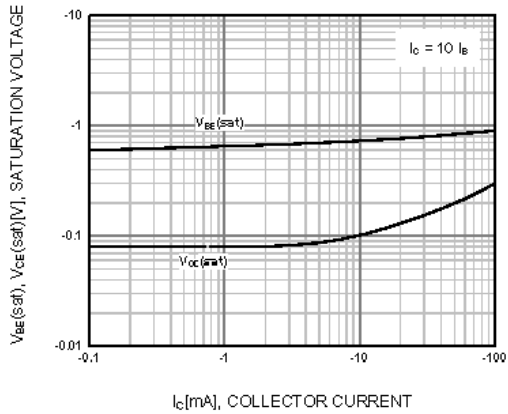


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

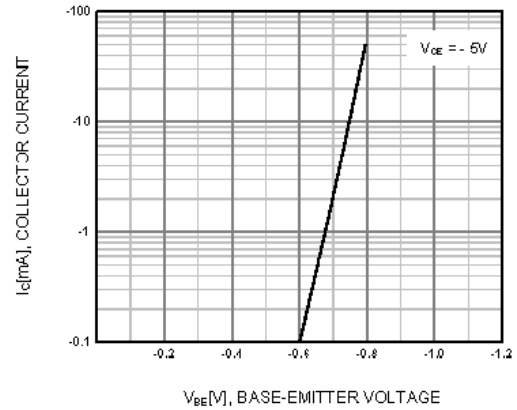


Figure 4. Base-Emitter On Voltage

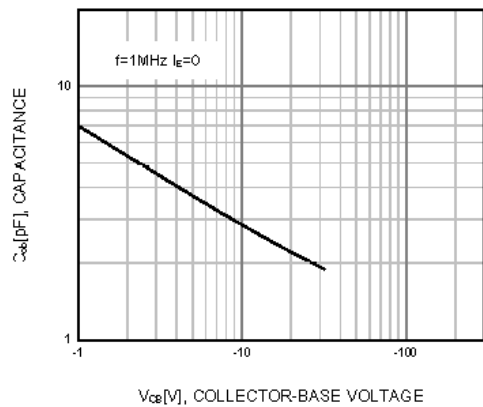


Figure 5. Collector Output Capacitance

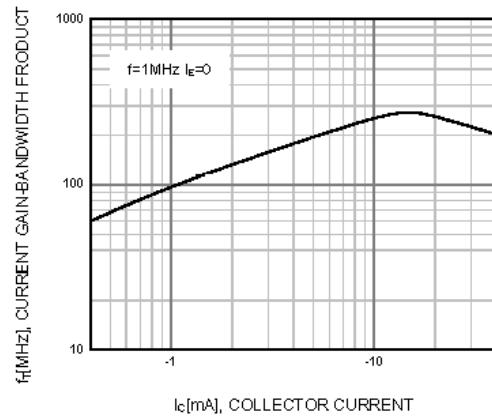
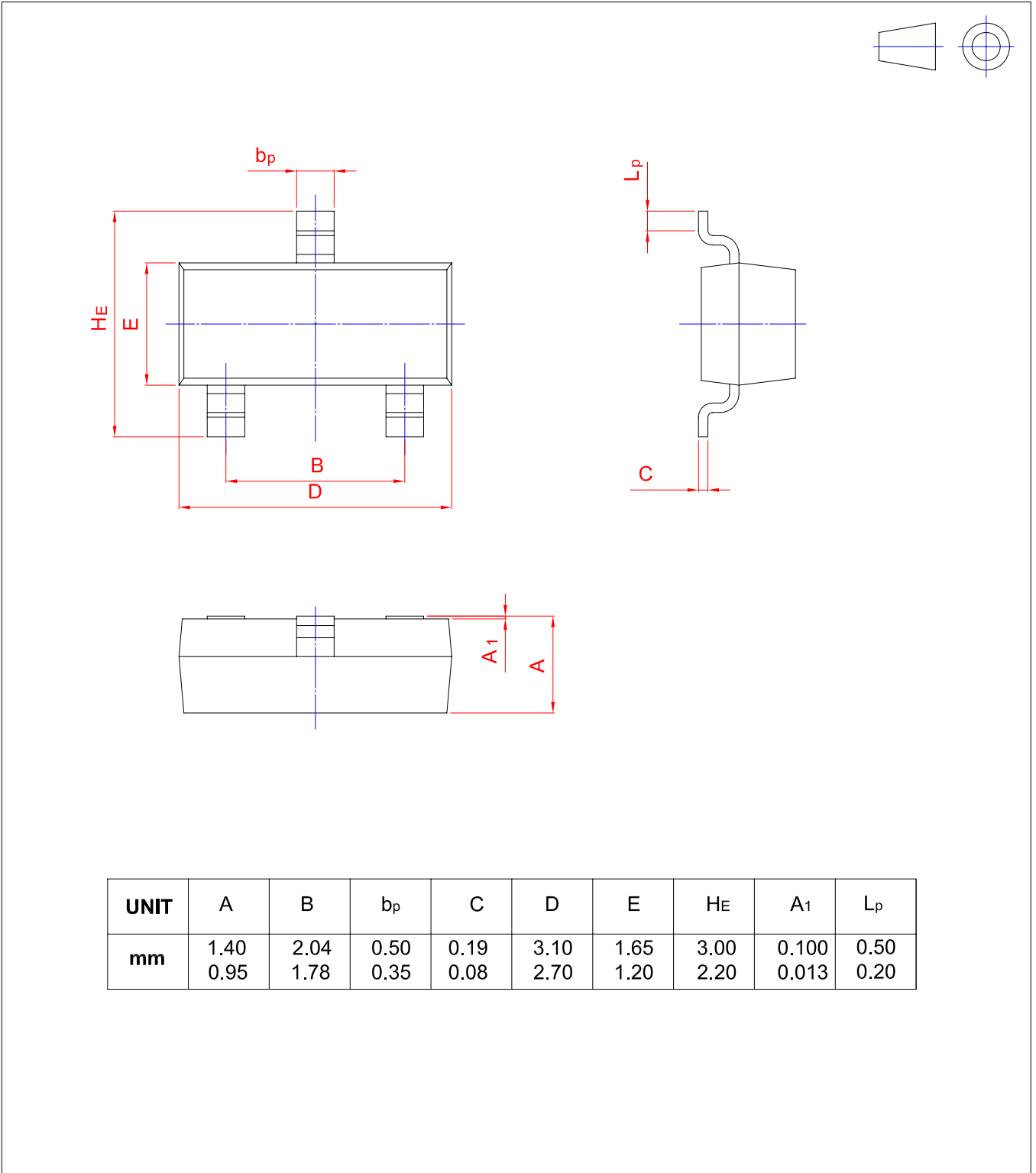


Figure 6. Current Gain Bandwidth Product

## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



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