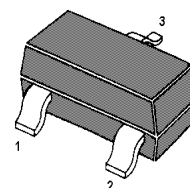


BC856...BC860

PNP Silicon Epitaxial Transistors



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

Applications

- For switching and amplifier

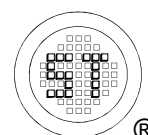
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter		Symbol	Value	Unit
Collector Base Voltage	BC856	-V _{CB0}	80	V
	BC857, BC860	-V _{CB0}	50	V
	BC858, BC859	-V _{CB0}	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	°C
Storage Temperature Range		T _{stg}	- 65 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient ¹⁾	R _{θJA}	625	°C/W

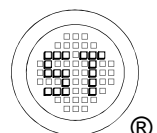
¹⁾ Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.



BC856...BC860

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 B C	h_{FE} h_{FE} h_{FE}	125 220 420	250 475 800	- - -
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 BC857, BC860 BC858, BC859	$-V_{(BR)CBO}$ $-V_{(BR)CBO}$ $-V_{(BR)CBO}$	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856 BC857, BC860 BC858, BC859	$-V_{(BR)CES}$ $-V_{(BR)CES}$ $-V_{(BR)CES}$	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	BC856 BC857, BC860 BC858, BC859	$-V_{(BR)CEO}$ $-V_{(BR)CEO}$ $-V_{(BR)CEO}$	65 45 30	- - -	V V 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 $-I_C = 100\text{ mA}$, $-I_B = 5\text{ mA}$	$-V_{CE(sat)}$ $-V_{CE(sat)}$	- -	0.3 0.65	V V	
Base Emitter On Voltage at $-I_C = 2\text{ mA}$, $-V_{CE} = 5\text{ V}$ at $-I_C = 10\text{ mA}$, $-V_{CE} = 5\text{ V}$	$-V_{BE(on)}$ $-V_{BE(on)}$	0.6 -	0.75 0.82	V V	
Current Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	MHz	
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	6	pF	



Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

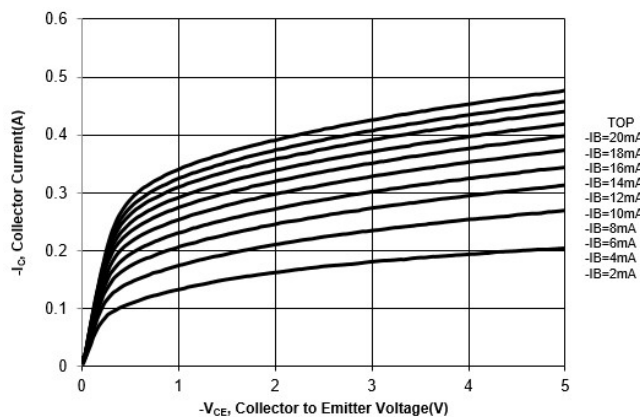


Fig. 2 Collector Current vs. Base to Emitter Voltage

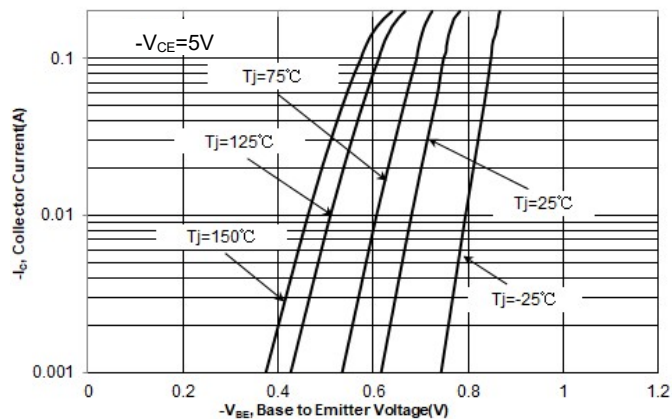


Fig. 3 DC Current Gain vs. Collector Current

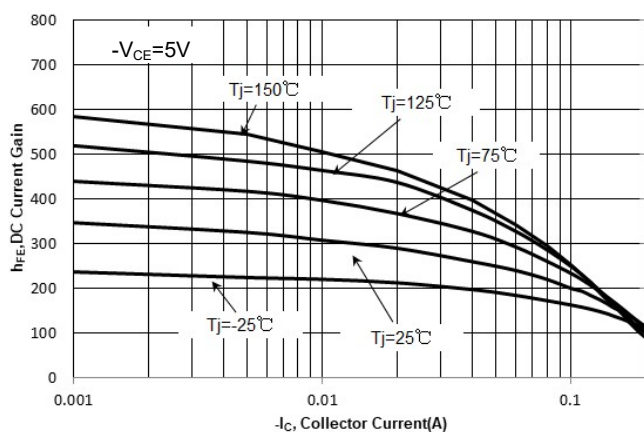
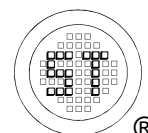
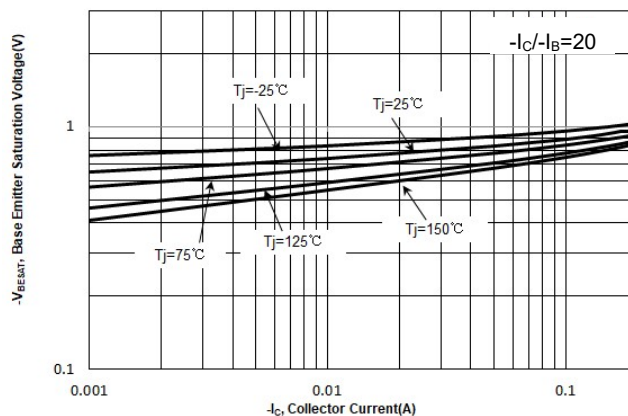


Fig. 4 V_BE(SAT) vs. Collector Current



Electrical Characteristics Curves

Fig. 5 V_{CESAT} vs. Collector Current

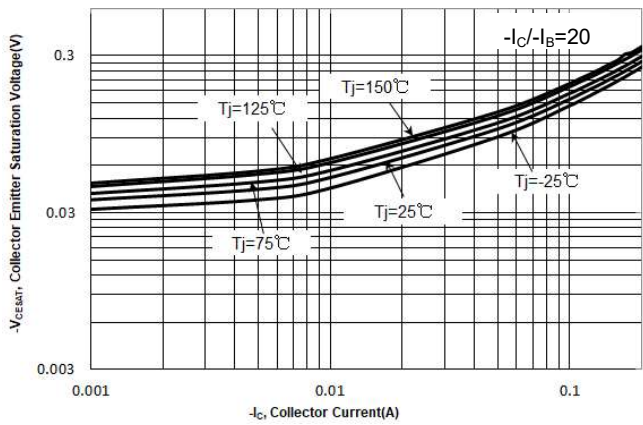


Fig. 6 Output Capacitance

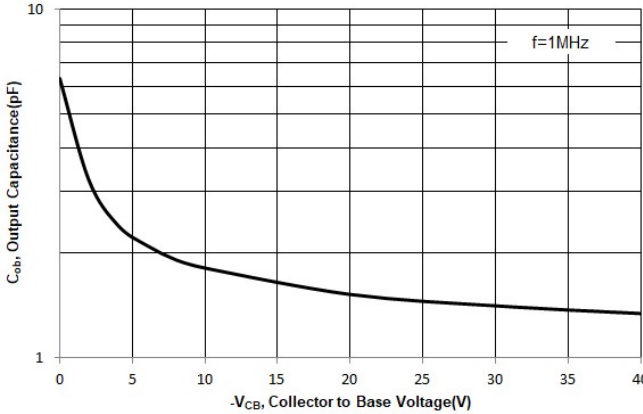
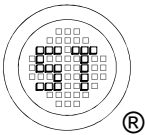
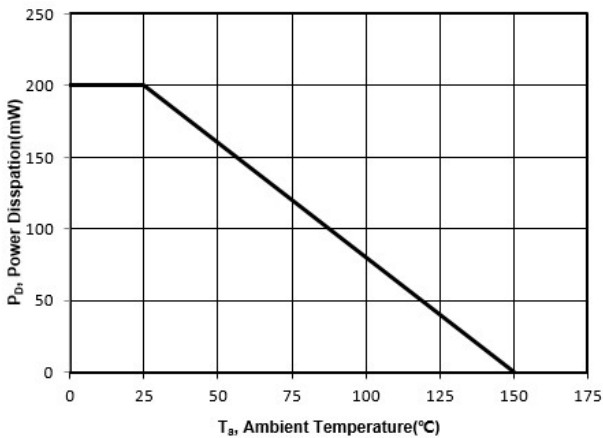


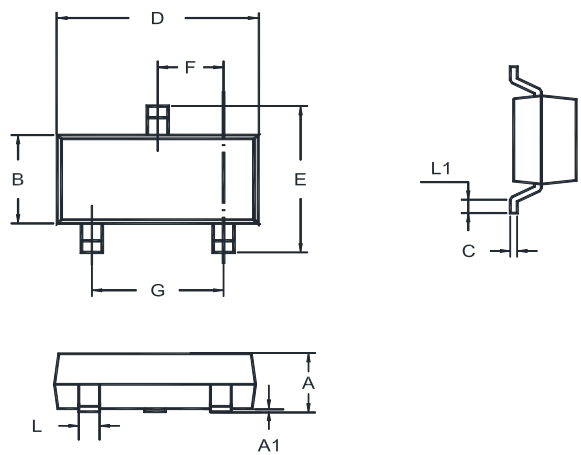
Fig. 7 Power Derating Curve



BC856...BC860

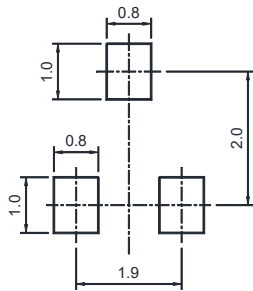
Package Outline (Dimensions in mm)

SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20	0.100	1.40	0.19	3.04	2.6	1.02	2.04	0.51	0.2
	0.89	0.013	1.20	0.08	2.80	2.2	0.89	1.78	0.37	MIN

Recommended Soldering Footprint



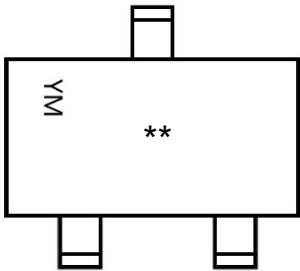
Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

"**" = Part No.

Type	Marking	Type	Marking
BC856A	3A	BC857A~BC860A	3E
BC856B	3B	BC857B~BC860B	3F
BC856C	3C	BC857C~BC860C	3G



"YM" = Date Code Marking

"Y" = Year

"M" = Month

Font type: Arial

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