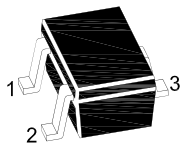
BC856E…BC860E

PNP Silicon Epitaxial Transistor

for switching and amplifier applications



1.Base 2.Emitter 3.Collector
SOT-523 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Collector Base Voltage	BC856E BC857E, BC860E BC858E, BC859E	$-V_{CBO}$	80 50 30	V
Collector Emitter Voltage	BC856E BC857E, BC860E BC858E, BC859E	$-V_{CEO}$	65 45 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}	150	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 65 to + 150	°C

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 5 V, $-I_C$ = 2 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 V		$-I_{CBO}$	-	15	nA
Collector Base Breakdown Voltage at $-I_C$ = 10 µA	BC856E BC857E, BC860E BC858E, BC859E	$-V_{(BR)CBO}$ $-V_{(BR)CBO}$ $-V_{(BR)CBO}$	80 50 30	- - -	V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 µA	BC856E BC857E, BC860E BC858E, BC859E	$-V_{(BR)CES}$ $-V_{(BR)CES}$ $-V_{(BR)CES}$	80 50 30	- - -	V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA	BC856E BC857E, BC860E BC858E, BC859E	$-V_{(BR)CEO}$ $-V_{(BR)CEO}$ $-V_{(BR)CEO}$	65 45 30	- - -	V
Emitter Base Breakdown Voltage at $-I_E$ = 1 µA		$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 0.5 mA at $-I_C$ = 100 mA, $-I_B$ = 5 mA		$-V_{CE(sat)}$ $-V_{CE(sat)}$	- -	0.3 0.65	V
Base Emitter On Voltage at $-I_C$ = 2 mA, $-V_{CE}$ = 5 V at $-I_C$ = 10 mA, $-V_{CE}$ = 5 V		$-V_{BE(on)}$ $-V_{BE(on)}$	0.6 -	0.75 0.82	V
Current Gain Bandwidth Product at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 100 MHz		f_T	100	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz		C_{ob}	-	6	pF

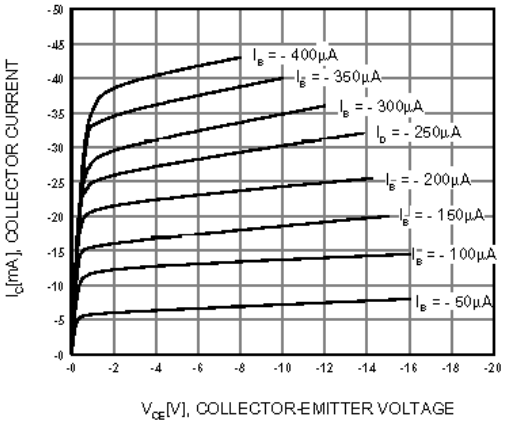


Figure 1. Static Characteristic

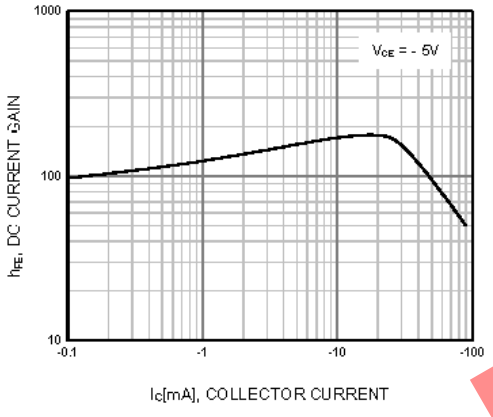


Figure 2. DC current Gain

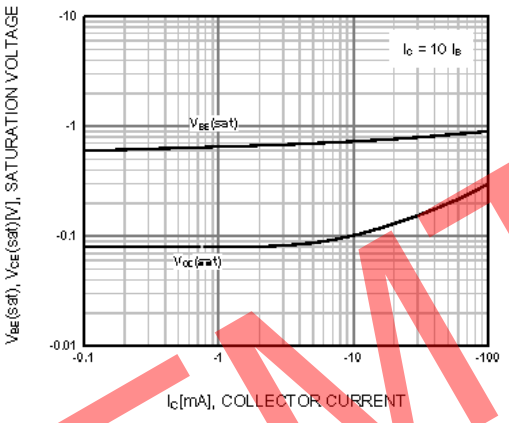


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

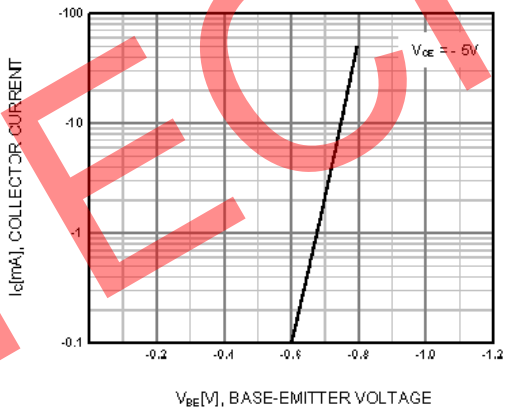


Figure 4. Base-Emitter On Voltage

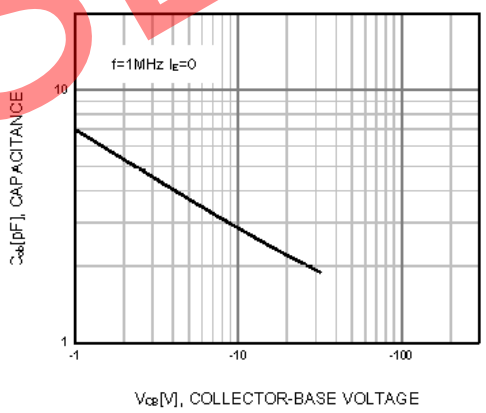


Figure 5. Collector Output Capacitance

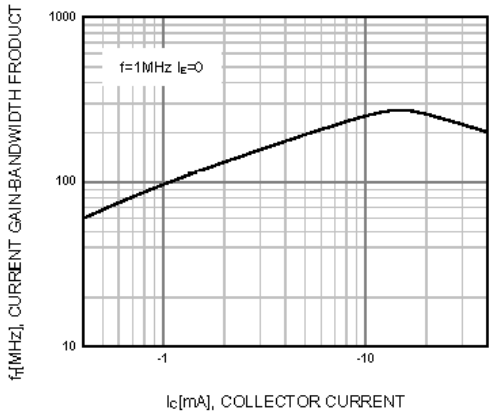


Figure 6. Current Gain Bandwidth Product