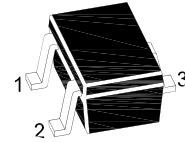


PNP Silicon Epitaxial Transistor

for switching and amplifier applications



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

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

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

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

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}	125	250	-
		220	475	-
		420	800	-
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	15	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856E $-V_{(BR)CBO}$	80	-	V
	BC857E, BC860E $-V_{(BR)CBO}$	50	-	
	BC858E, BC859E $-V_{(BR)CBO}$	30	-	
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856E $-V_{(BR)CES}$	80	-	V
	BC857E, BC860E $-V_{(BR)CES}$	50	-	
	BC858E, BC859E $-V_{(BR)CES}$	30	-	
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	BC856E $-V_{(BR)CEO}$	65	-	V
	BC857E, BC860E $-V_{(BR)CEO}$	45	-	
	BC858E, BC859E $-V_{(BR)CEO}$	30	-	
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	
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	
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

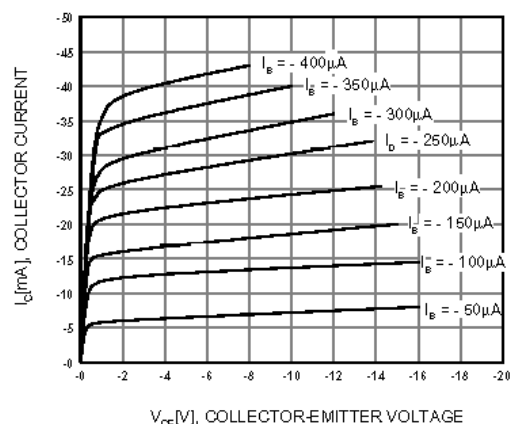


Figure 1. Static Characteristic

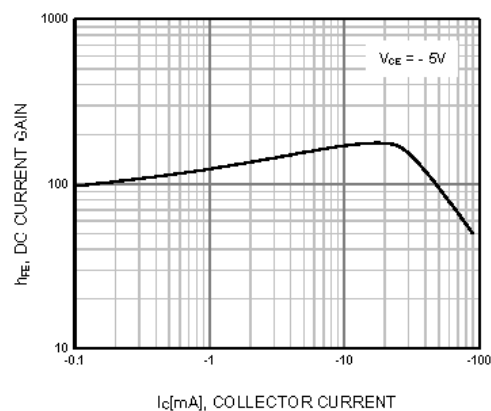


Figure 2. DC current Gain

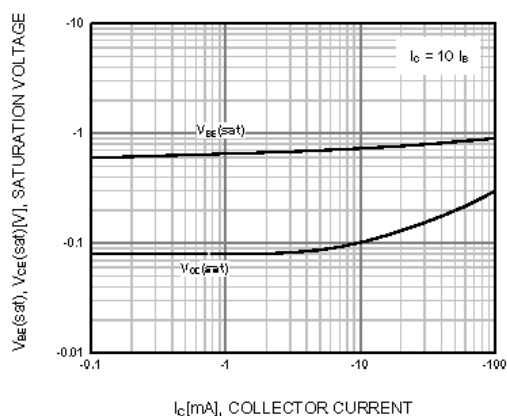


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

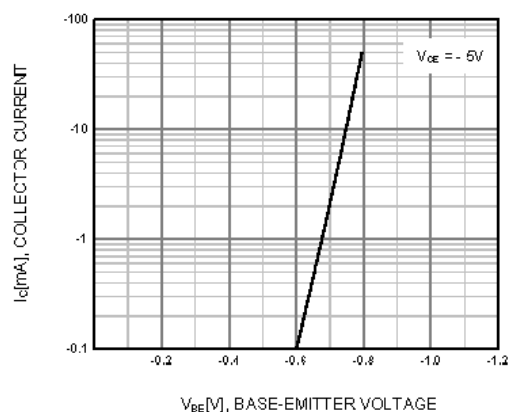


Figure 4. Base-Emitter On Voltage

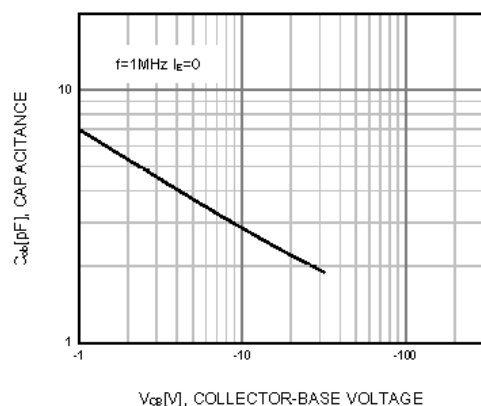


Figure 5. Collector Output Capacitance

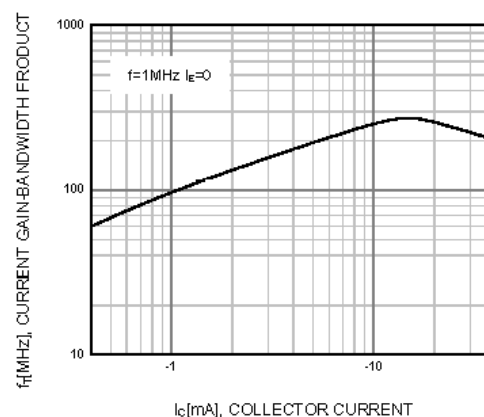


Figure 6. Current Gain Bandwidth Product