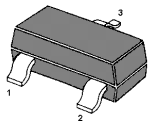
BC856…BC860

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 °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	°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	h_{FE}	125	250	-
		B	h_{FE}	220	475	-
		C	h_{FE}	420	800	-
Collector Base Cutoff Current						
at $-V_{CB}$ = 30 V			$-I_{CBO}$	-	15	nA
Collector Base Breakdown Voltage						
at $-I_C$ = 10 µA	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 µA	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 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 µA			$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage						
at $-I_C$ = 10 mA, $-I_B$ = 0.5 mA			$-V_{CE(sat)}$	-	0.3	V
at $-I_C$ = 100 mA, $-I_B$ = 5 mA			$-V_{CE(sat)}$	-	0.65	V
Base Emitter On Voltage						
at $-I_C$ = 2 mA, $-V_{CE}$ = 5 V			$-V_{BE(on)}$	0.6	0.75	V
at $-I_C$ = 10 mA, $-V_{CE}$ = 5 V			$-V_{BE(on)}$	-	0.82	V
Current Gain Bandwidth Product						
at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 100 MHz			f_T	100	-	MHz
Output Capacitance						
at $-V_{CB}$ = 10 V, f = 1 MHz			C_{ob}	-	6	pF
Noise Figure						
at $-I_C$ = 200 µA, $-V_{CE}$ = 5 V,	BC856, BC857, BC858			-	10	
R_G = 2 KΩ, f = 1 KHz	BC859, BC860		NF	-	4	dB
at $-I_C$ = 200 µA, $-V_{CE}$ = 5 V,	BC859			-	4	
R_G = 2 KΩ, f = 30 ~15 KHz	BC860			-	2	

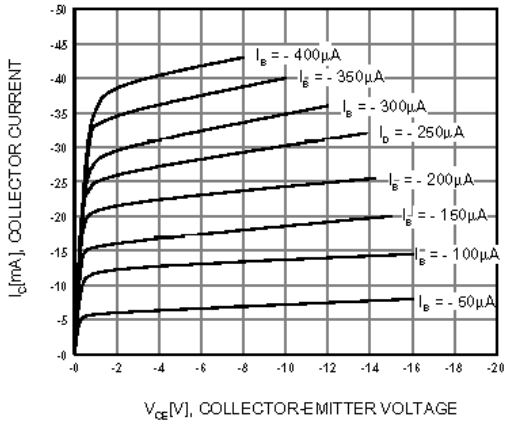


Figure 1. Static Characteristic

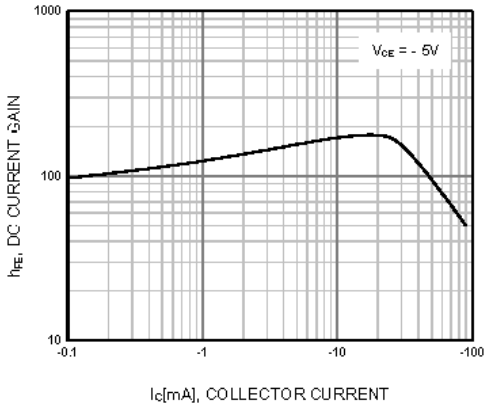


Figure 2. DC current Gain

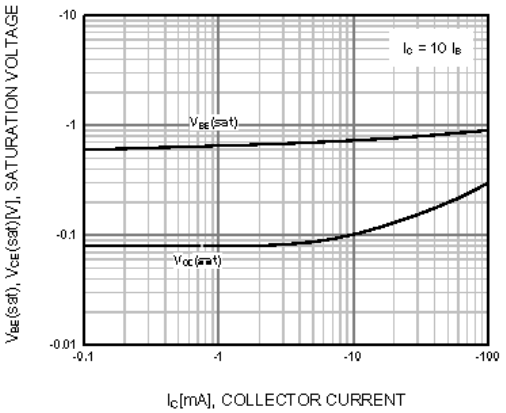


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

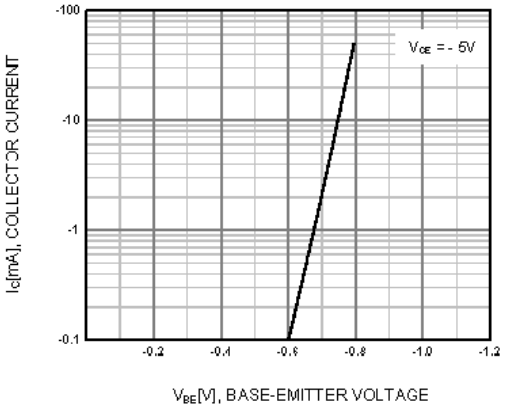


Figure 4. Base-Emitter On Voltage

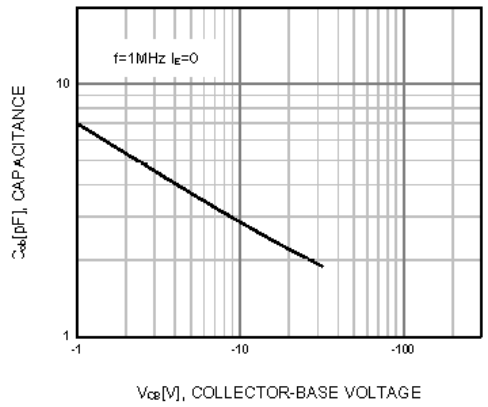


Figure 5. Collector Output Capacitance

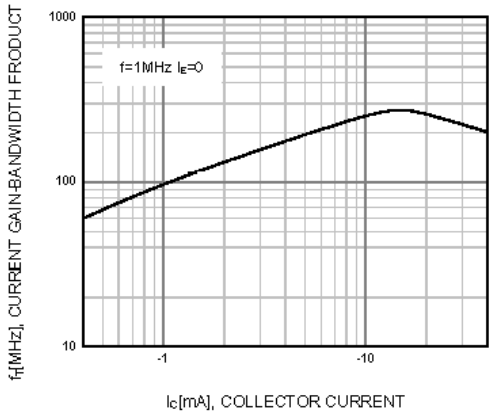


Figure 6. Current Gain Bandwidth Product