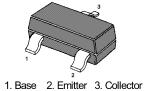
## **PNP Silicon Epitaxial Transistor**

for switching and amplifier applications



Base 2. Emitter 3. Collector
 TO-236 Plastic Package

Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)

Parameter		Symbol Value		Unit	
Collector Base Voltage	BC856	-V <sub>CBO</sub>	80	V	
-	BC857, BC860	-V <sub>CBO</sub>	50	V	
	BC858, BC859	-V <sub>CBO</sub>	30	V	
Collector Emitter Voltage	BC856	$-V_{CEO}$	65	V	
	BC857, BC860	$-V_{CEO}$	45	V	
	BC858, BC859	-V <sub>CEO</sub>	30	V	
Emitter Base Voltage		-V <sub>EBO</sub>	5	V	
Collector Current		-I <sub>C</sub>	100	mA	
Peak Collector Current		-I <sub>CM</sub>	200	mA	
Power Dissipation		P <sub>tot</sub>	200	mW	
Junction Temperature		T <sub>j</sub>	150	°C	
Storage Temperature Range		T <sub>stg</sub>	- 65 to + 150	°C	











## Characteristics at T<sub>a</sub> = 25 °C

Characteristics at T <sub>a</sub> = 25 °C					
Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at -V <sub>CE</sub> = 5 V, -I <sub>C</sub> = 2 mA	Current Gain Group A B C	h <sub>FE</sub> h <sub>FE</sub> h <sub>FE</sub>	125 220 420	250 475 800	- - -
Collector Base Cutoff Current at -V <sub>CB</sub> = 30 V		-I <sub>CBO</sub>	-	15	nA
Collector Base Breakdown Voltage at -I <sub>C</sub> = 10 μA	BC856 BC857, BC860 BC858, BC859	-V <sub>(BR)CBO</sub> -V <sub>(BR)CBO</sub> -V <sub>(BR)CBO</sub>	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at -I <sub>C</sub> = 10 μA	BC856 BC857, BC860 BC858, BC859	-V <sub>(BR)CES</sub> -V <sub>(BR)CES</sub> -V <sub>(BR)CES</sub>	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at -I <sub>C</sub> = 10 mA	BC856 BC857, BC860 BC858, BC859	-V <sub>(BR)CEO</sub> -V <sub>(BR)CEO</sub> -V <sub>(BR)CEO</sub>	65 45 30	- - -	V V V
Emitter Base Breakdown Voltage at -I <sub>E</sub> = 1 µA		-V <sub>(BR)EBO</sub>	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 <sub>CE(sat)</sub>	-	0.3 0.65	V V
Base Emitter On Voltage at $-V_{CE} = 5 \text{ V}$ , $-I_C = 2 \text{ mA}$ at $-V_{CE} = 5 \text{ V}$ , $-I_C = 10 \text{ mA}$		-V <sub>BE(on)</sub>	0.6	0.75 0.82	V
Current Gain Bandwidth Product at $-V_{CE} = 5 \text{ V}$ , $-I_{C} = 10 \text{ mA}$ , $f = 100 \text{ M}$	1Hz	f <sub>T</sub>	100	-	MHz
Collector Output Capacitance at -V <sub>CB</sub> = 10 V, f = 1 MHz		C <sub>ob</sub>	-	6	pF











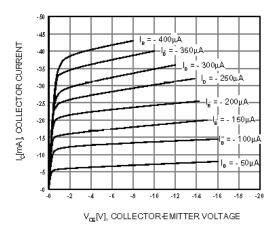


Figure 1. Static Characteristic

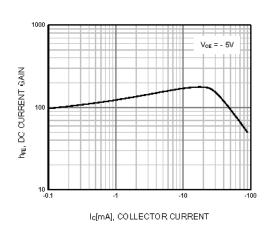


Figure 2. DC current Gain

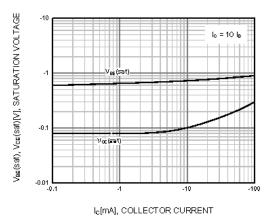


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

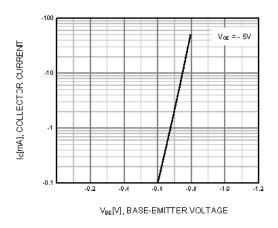


Figure 4. Base-Emitter On Voltage

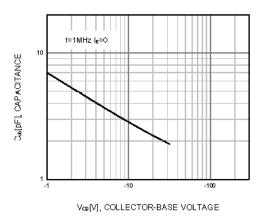


Figure 5. Collector Output Capacitance

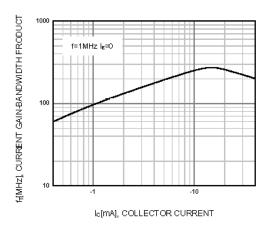


Figure 6. Current Gain Bandwidth Product















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