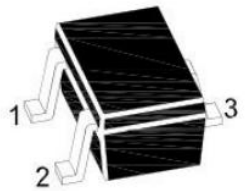
PNP Silicon Epitaxial Transistor

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	BC856T	$-V_{CBO}$	80	V
	BC857T,BC860T	$-V_{CBO}$	50	V
	BC858T, BC859T	$-V_{CBO}$	30	V
Collector Emitter Voltage	BC856T	$-V_{CEO}$	65	V
	BC857T, BC860T	$-V_{CEO}$	45	V
	BC858T, BC859T	$-V_{CEO}$	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

MARKING CODE

TYPE	856AT	856BT	856CT	857AT	857BT	857CT	858AT	858BT	858CT
MARKING	3A	3B	3C	3E	3F	3G	3J	3K	3L
TYPE	8459AT	859BT	859CT	860AT	860BT	860CT			
MARKING	4A	4B	4C	4E	4F	4G			

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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}	110 200 420	220 450 800	- - -
Collector Base Cutoff Current at $-V_{CB}$ = 30 V		$-I_{CBO}$	-	15	nA
Collector Base Breakdown Voltage at $-I_C$ = 10 μA	BC856T BC857T, BC860T BC858T, BC859T	$-V_{(BR)CBO}$ $-V_{(BR)CBO}$ $-V_{(BR)CBO}$	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 μA	BC856T BC857T, BC860T BC858T, BC859T	$-V_{(BR)CES}$ $-V_{(BR)CES}$ $-V_{(BR)CES}$	80 50 30	- - -	V V V
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA	BC856T BC857T, BC860T BC858T, BC859T	$-V_{(BR)CEO}$ $-V_{(BR)CEO}$ $-V_{(BR)CEO}$	65 45 30	- - -	V V 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 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 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

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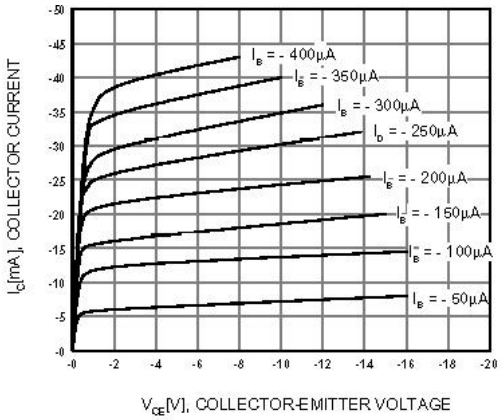

Figure 1. Static Characteristic

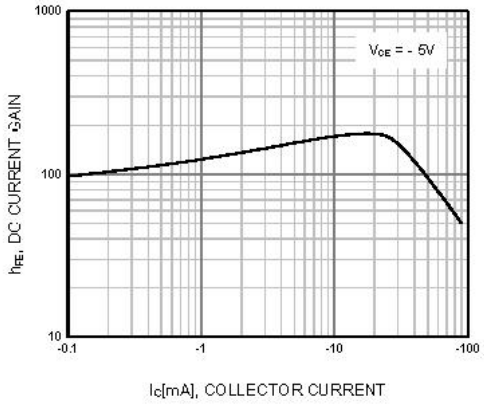

Figure 2. DC current Gain

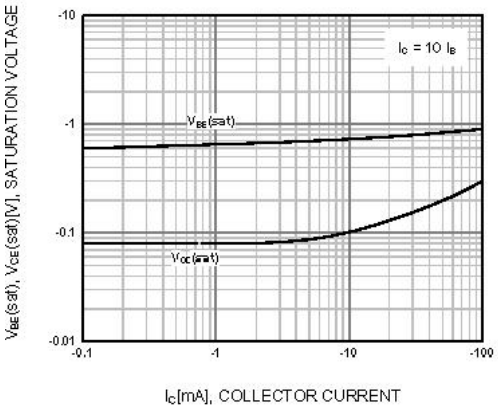

Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

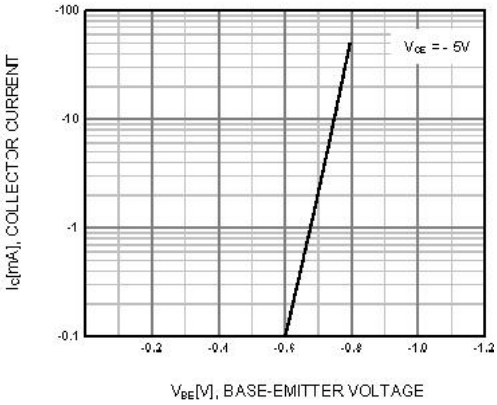

Figure 4. Base-Emitter On Voltage

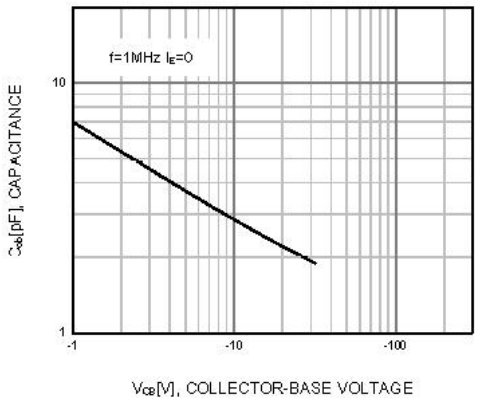

Figure 5. Collector Output Capacitance

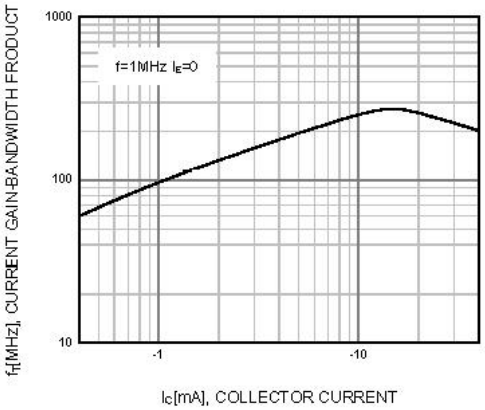

Figure 6. Current Gain Bandwidth Product

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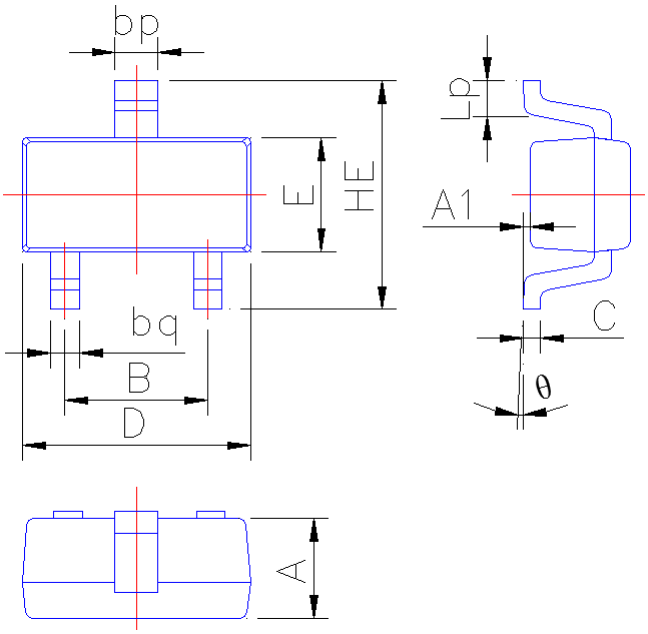
PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-523**



Symbol	Dimension in Millimeters	
	Min	Max
A	0.60	0.80
A1	0.010	0.100
B	0.95	1.05
bp	0.26	0.40
bq	0.16	0.30
C	0.09	0.15
D	1.50	1.70
E	0.70	0.85
HE	1.45	1.75
Lp	0.16	0.36
θ	0°	5°

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