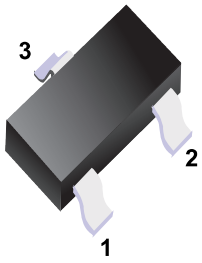
■ PNP Silicon Epitaxial Planar Transistor

for general purpose and switching applications



1.Base
2.Emitter
3.Collector

■ **Simplified outline(SOT-323)**

■ Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage BC856W BC857W BC858W BC859W BC860W	$-V_{CBO}$	 80 50 30 30 50	V
Collector Emitter Voltage BC856W BC857W BC858W BC859W BC860W	$-V_{CEO}$	 65 45 30 30 45	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	100	mA
Peak Collector Current	$-I_{CM}$	100	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{Stg}	- 55 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	BC856AW~BC860AW	h_{FE}	125	250	-
	BC856BW~BC860BW	h_{FE}	220	475	-
	BC856CW~BC860CW	h_{FE}	420	800	-
Collector Base Voltage					
at $-I_C$ = 10 μA					
	BC856W	$-V_{CBO}$	80	-	V
	BC857W		50	-	
	BC858W		30	-	
	BC859W		30	-	
	BC860W		50	-	
Collector Emitter Voltage					
at $-I_C$ = 10 mA					
	BC856W	$-V_{CEO}$	65	-	V
	BC857W		45	-	
	BC858W		30	-	
	BC859W		30	-	
	BC860W		45	-	
Emitter Base Voltage at $-I_E$ = 1 μA		$-V_{EBO}$	5	-	V
Collector Base Cutoff Current at $-V_{CB}$ = 30 V		$-I_{CBO}$	-	15	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V		$-I_{EBO}$	-	100	nA
Collector Emitter Saturation Voltage					
at $-I_C$ = 10 mA, $-I_B$ = 0.5 mA		$-V_{CE(sat)}$	-	0.3	V
$-I_C$ = 100 mA, $-I_B$ = 5 mA			-	0.65	
Base Emitter Voltage					
at $-V_{CE}$ = 5 V, $-I_C$ = 2 mA		$-V_{BE}$	0.6	0.75	V
$-V_{CE}$ = 5 V, $-I_C$ = 10 mA			-	0.82	
Transition Frequency at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA, f = 100 MHz		f_T	100	-	MHz
Output Capacitance at $-V_{CB}$ = 10 V, I_E = 0, f = 1 MHz		C_{ob}	-	4.5	pF

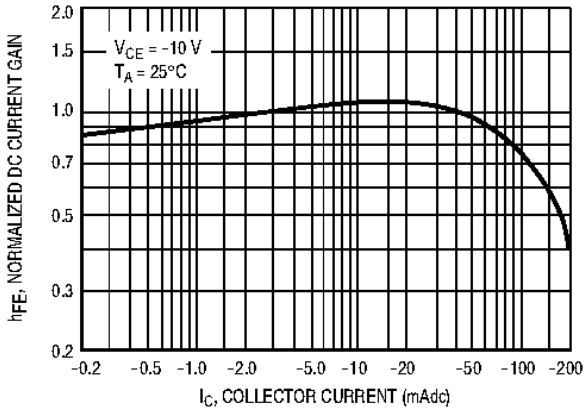


Figure 1. Normalized DC Current Gain

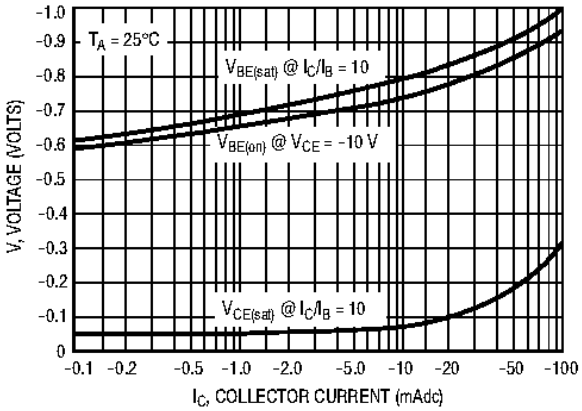


Figure 2. "Saturation" and "On" Voltages

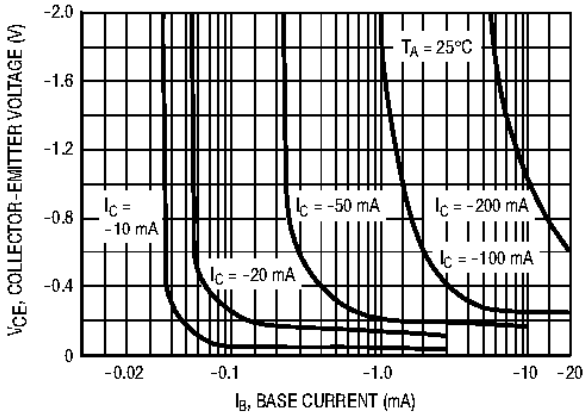


Figure 3. Collector Saturation Region

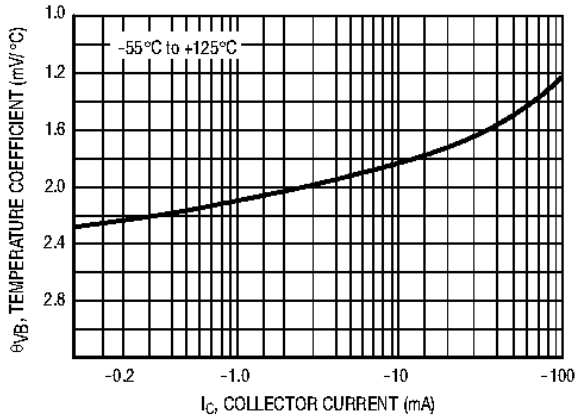


Figure 4. Base−Emitter Temperature Coefficient

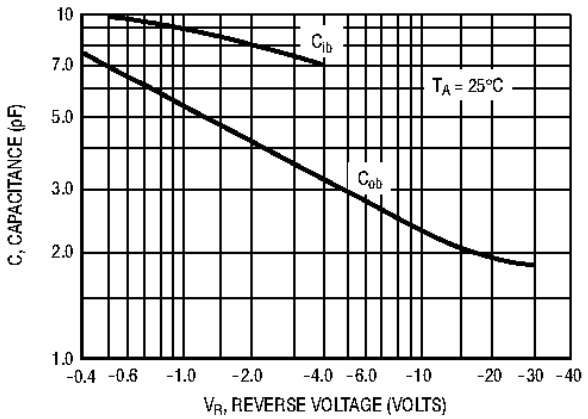


Figure 5. Capacitances

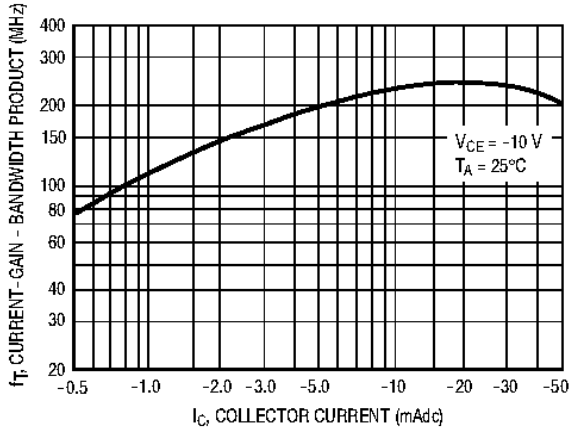


Figure 6. Current−Gain − Bandwidth Product

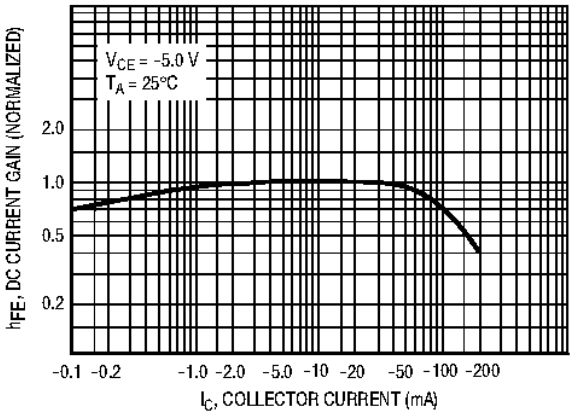


Figure 7. DC Current Gain

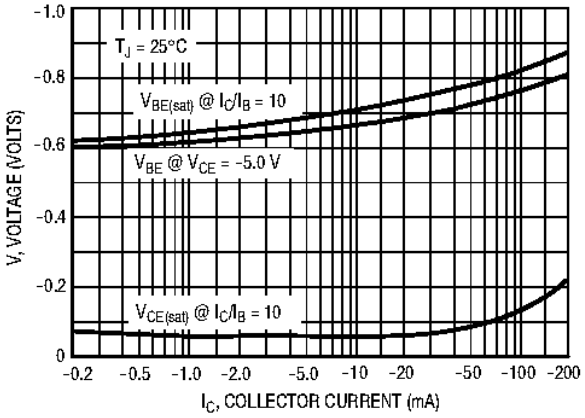


Figure 8. "On" Voltage

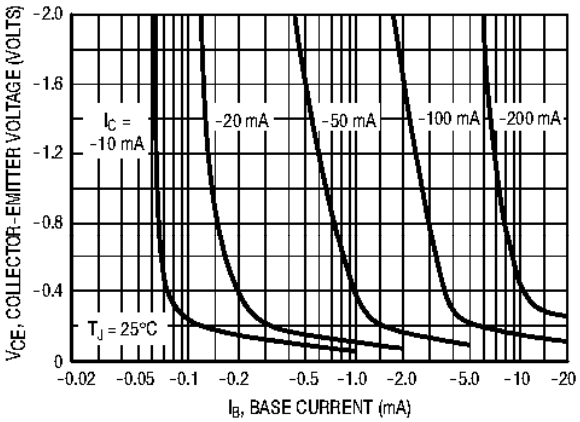


Figure 9. Collector Saturation Region

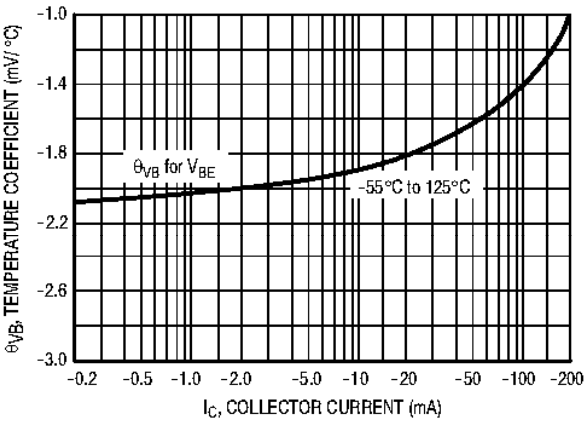


Figure 10. Base−Emitter Temperature Coefficient

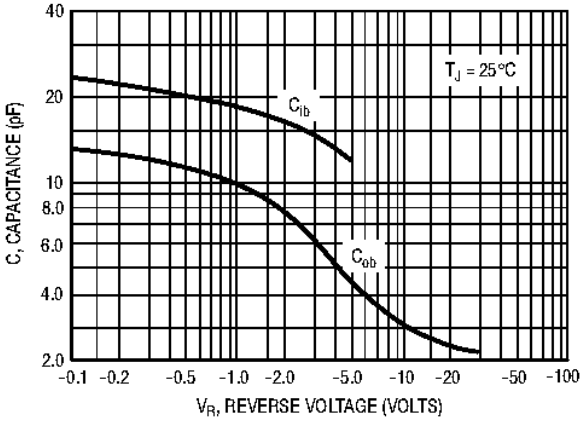


Figure 11. Capacitance

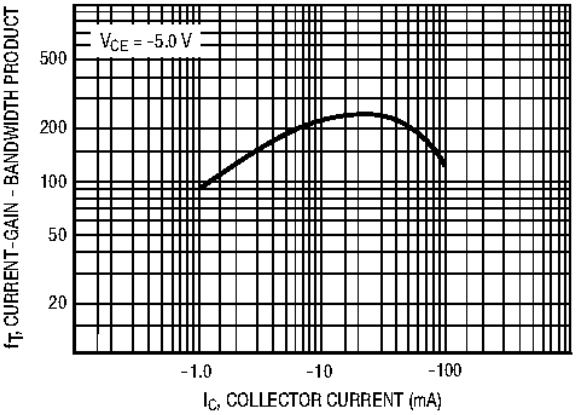
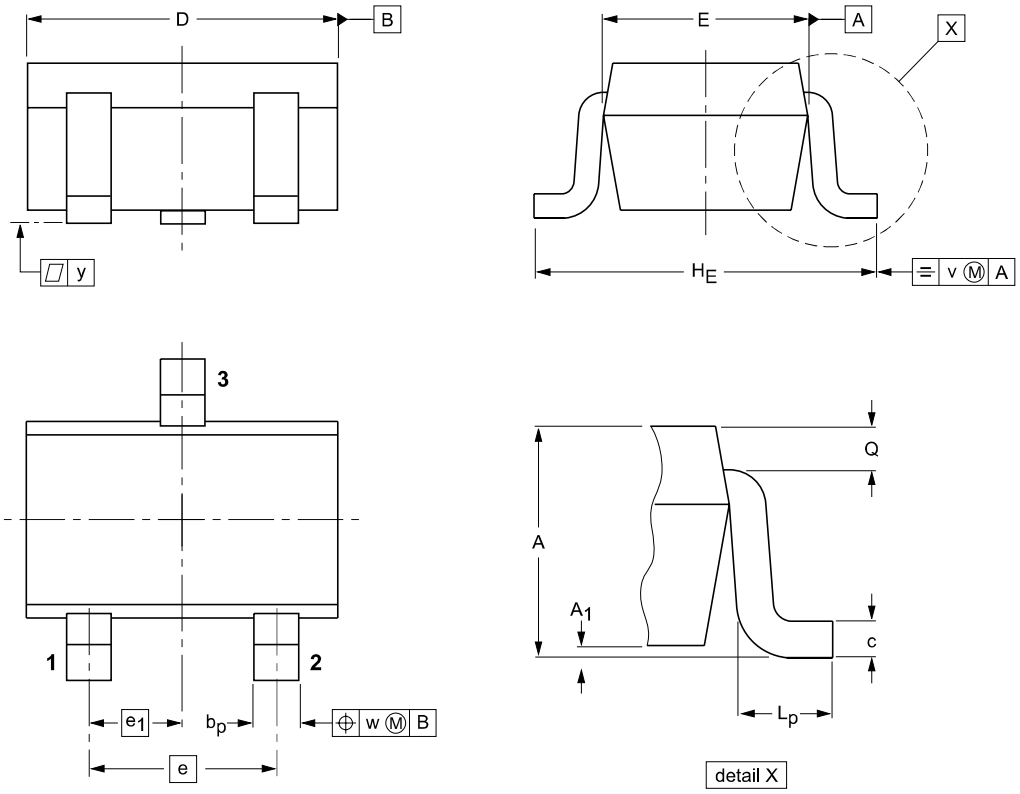


Figure 12. Current−Gain − Bandwidth Product

Package Outline SOT-323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-323	Tape/Reel,7"reel	3000	EIA-481-1