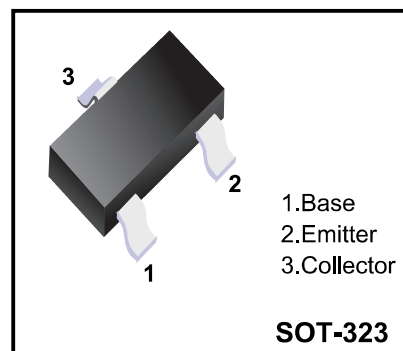


NPN Silicon Epitaxial Planar Transistor

for general purpose and switching applications



Absolute Maximum Ratings (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	BC846W 80	V
		BC847W 50	
		BC848W 30	
		BC849W 30	
		BC850W 50	
Collector Emitter Voltage	V_{CEO}	BC846W 65	V
		BC847W 45	
		BC848W 30	
		BC849W 30	
		BC850W 45	
Emitter Base Voltage	V_{EBO}	BC846W 6	V
		BC847W 6	
		BC848W 5	
		BC849W 5	
		BC850W 5	
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

MARKING CODE

TYPE	BC846AW	BC846BW	BC846CW	BC847AW	BC847BW	BC847CW	BC848AW	BC848BW	BC848CW
MARKING	1A	1B	1C	1E	1F	1G	1J	1K	1L
TYPE	BC849AW	BC849BW	BC849CW	BC850AW	BC850BW	BC850CW			
MARKING	2A	2B	2C	2E	2F	2G			

Characteristics at Ta = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	BC846AW~BC850AW h_{FE} BC846BW~BC850BW h_{FE} BC846CW~BC850CW h_{FE}	110 200 420	220 450 800	- - -
Collector Base Voltage at $I_C = 10\text{ }\mu\text{A}$	BC846W BC847W BC848W BC849W BC850W V_{CBO}	80 50 30 30 50	- - - - -	V
Collector Emitter Voltage at $I_C = 10\text{ mA}$	BC846W BC847W BC848W BC849W BC850W V_{CEO}	65 45 30 30 45	- - - - -	V
Emitter Base Voltage at $I_E = 1\text{ }\mu\text{A}$	BC846W BC847W BC848W BC849W BC850W V_{EBO}	6 6 5 5 5	- - - - -	V
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	15	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	100	nA
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$ $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	- -	0.25 0.6	V
Base Emitter Voltage at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$ $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$	V_{BE}	- -	0.7 0.77	V
Transition Frequency at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	C_{ob}	-	4.5	pF

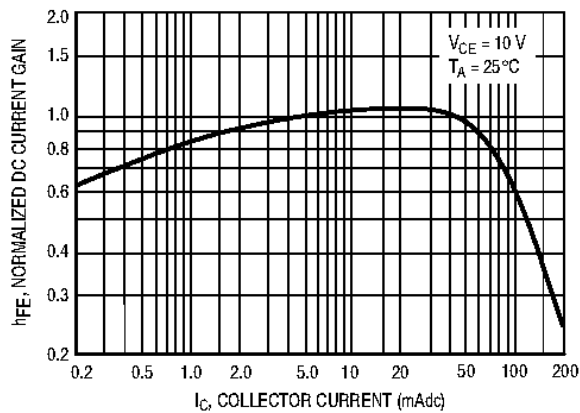


Figure 1. Normalized DC Current Gain

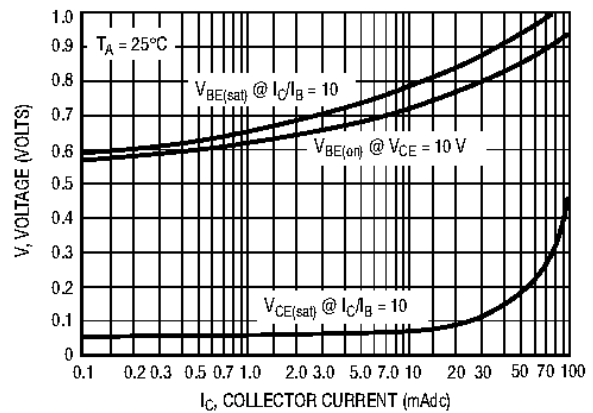


Figure 2. "Saturation" and "On" Voltages

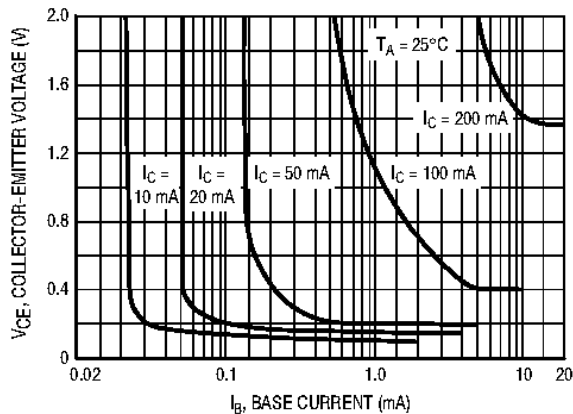


Figure 3. Collector Saturation Region

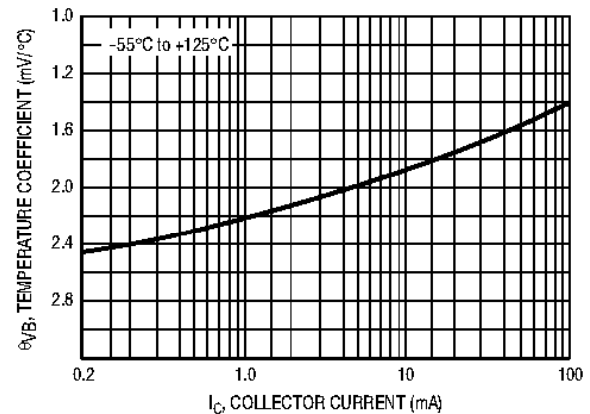


Figure 4. Base-Emitter Temperature Coefficient

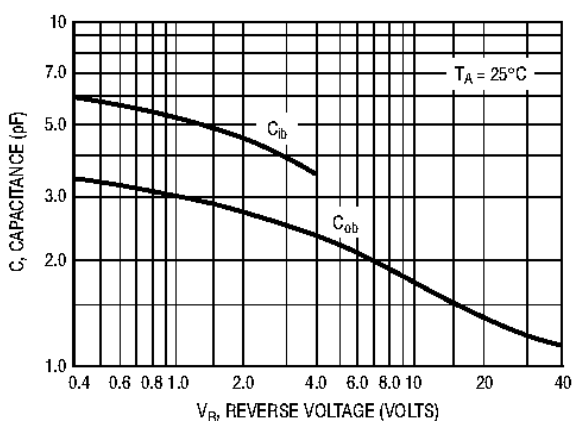


Figure 5. Capacitances

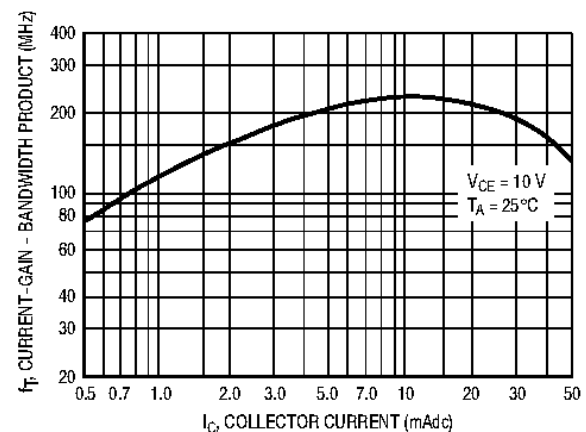


Figure 6. Current-Gain - Bandwidth Product

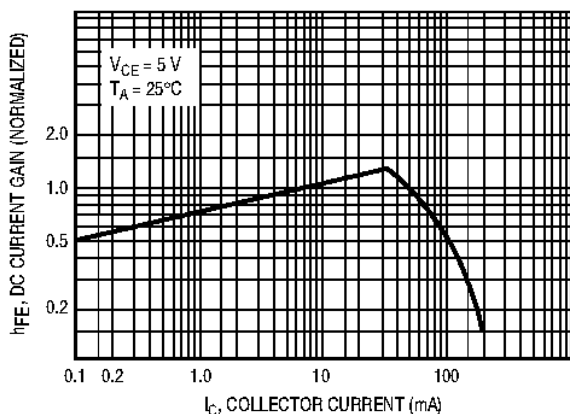


Figure 7. DC Current Gain

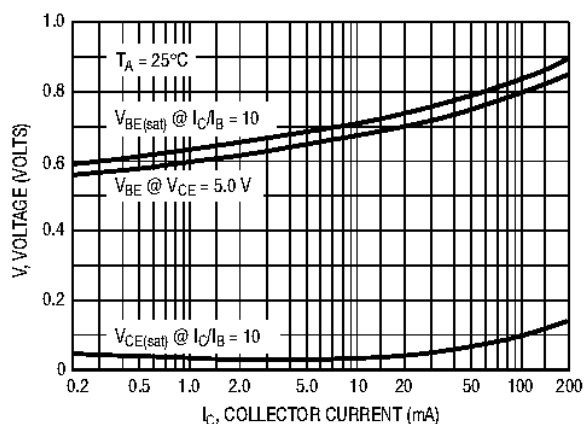


Figure 8. "On" Voltage

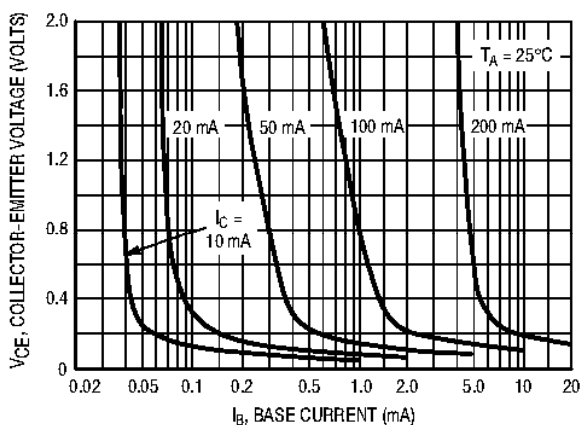


Figure 9. Collector Saturation Region

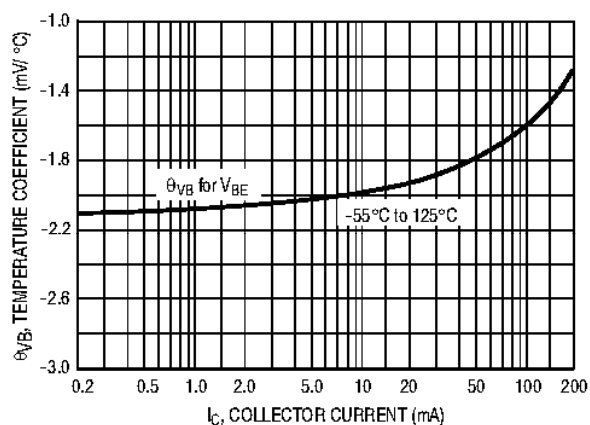


Figure 10. Base-Emitter Temperature Coefficient

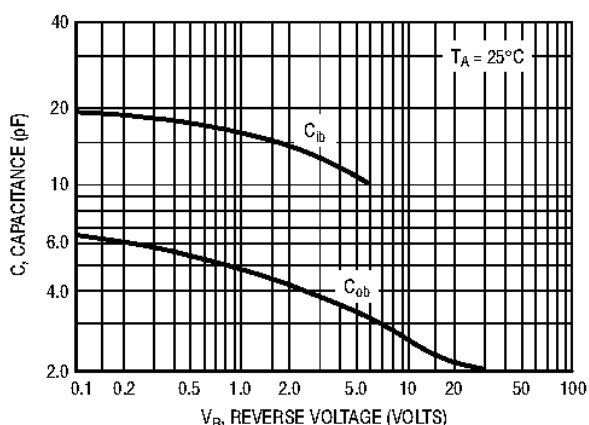


Figure 11. Capacitance

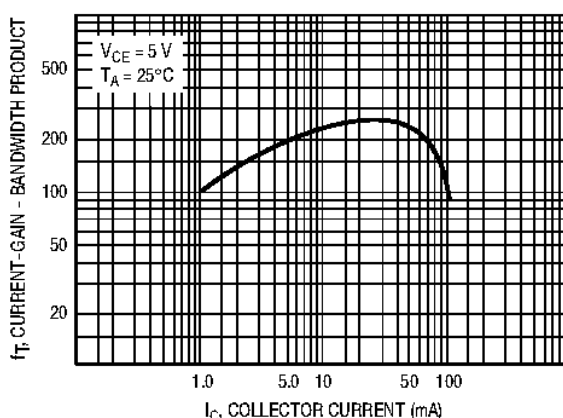


Figure 12. Current-Gain - Bandwidth Product

Ordering information

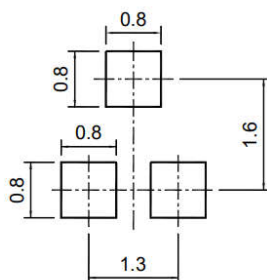
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-323

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
E	1.3		51	
E1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

The recommended mounting pad size



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