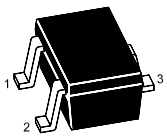
BC846W…BC850W

NPN Silicon Epitaxial Planar Transistor

for general purpose and switching applications



1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings (T_a = 25℃)

Parameter		Symbol	Value	Unit
Collector Base Voltage				
	BC846W	V_{CBO}	80	V
	BC847W		50	
	BC848W		30	
	BC849W		30	
	BC850W		50	
Collector Emitter Voltage				
	BC846W	V_{CEO}	65	V
	BC847W		45	
	BC848W		30	
	BC849W		30	
	BC850W		45	
Emitter Base Voltage				
	BC846W	V_{EBO}	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	℃
Storage Temperature Range		T_{stg}	- 55 to + 150	℃

Characteristics at T_a = 25℃

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 2 mA	BC846AW~BC850AW	h_{FE}	110	220	-
	BC846BW~BC850BW	h_{FE}	200	450	-
	BC846CW~BC850CW	h_{FE}	420	800	-
Collector Base Voltage at I_C = 10 µA	BC846W	V_{CBO}	80	-	V
	BC847W		50	-	
	BC848W		30	-	
	BC849W		30	-	
	BC850W		50	-	
Collector Emitter Voltage at I_C = 10 mA	BC846W	V_{CEO}	65	-	V
	BC847W		45	-	
	BC848W		30	-	
	BC849W		30	-	
	BC850W		45	-	
Emitter Base Voltage at I_E = 1 µA	BC846W	V_{EBO}	6	-	V
	BC847W		6	-	
	BC848W		5	-	
	BC849W		5	-	
	BC850W		5	-	
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		$V_{CE(sat)}$	-	0.25	V
I_C = 100 mA, I_B = 5 mA			-	0.6	
Base Emitter Voltage at V_{CE} = 5 V, I_C = 2 mA		V_{BE}	0.58	0.7	V
V_{CE} = 5 V, I_C = 10 mA			-	0.77	
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz		f_T	100	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, I_E = 0, f = 1 MHz		C_{ob}	-	4.5	pF

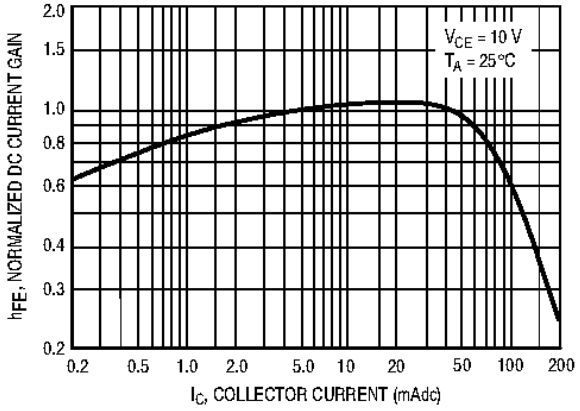


Figure 1. Normalized DC Current Gain

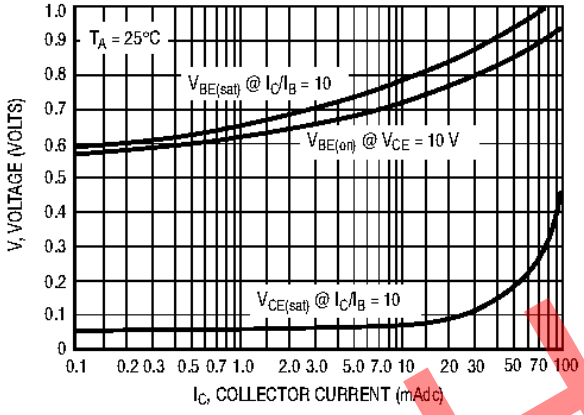


Figure 2. "Saturation" and "On" Voltages

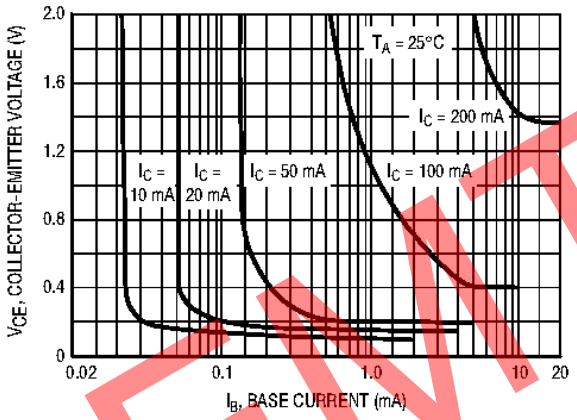


Figure 3. Collector Saturation Region

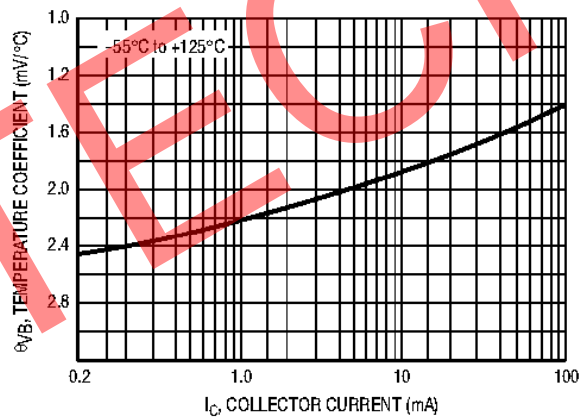


Figure 4. Base–Emitter Temperature Coefficient

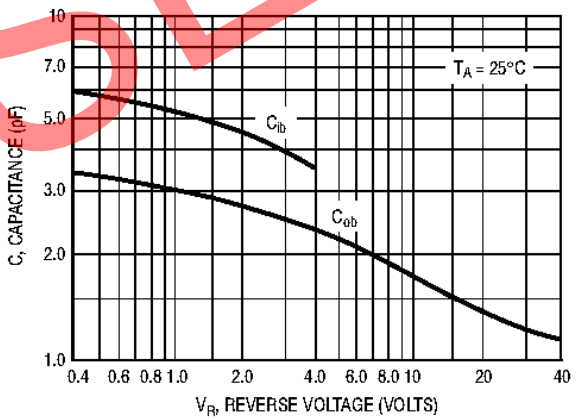


Figure 5. Capacitances

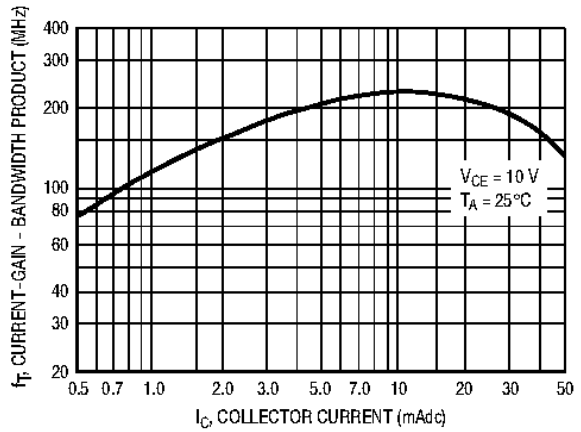


Figure 6. Current–Gain – Bandwidth Product

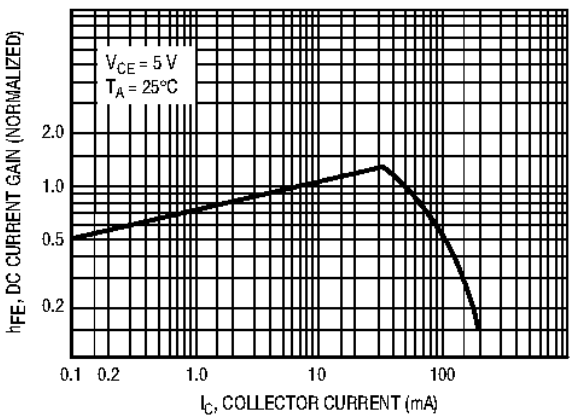


Figure 7. DC Current Gain

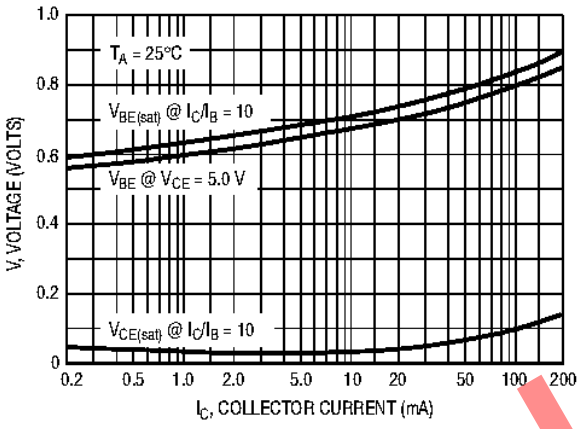


Figure 8. "On" Voltage

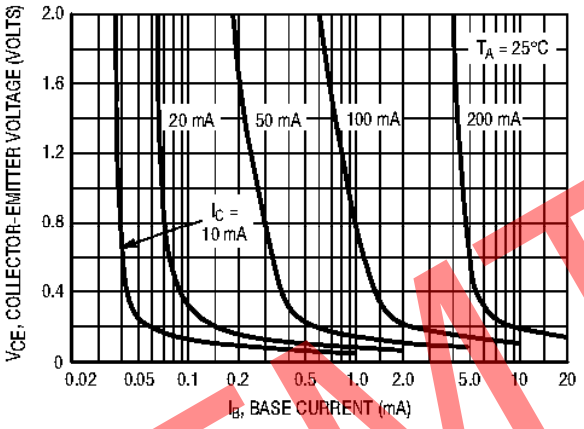


Figure 9. Collector Saturation Region

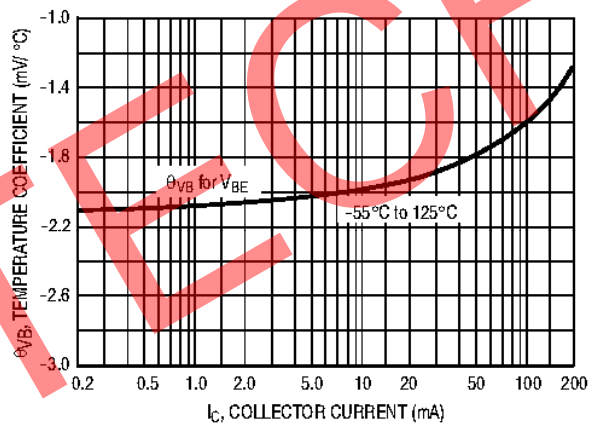


Figure 10. Base–Emitter Temperature Coefficient

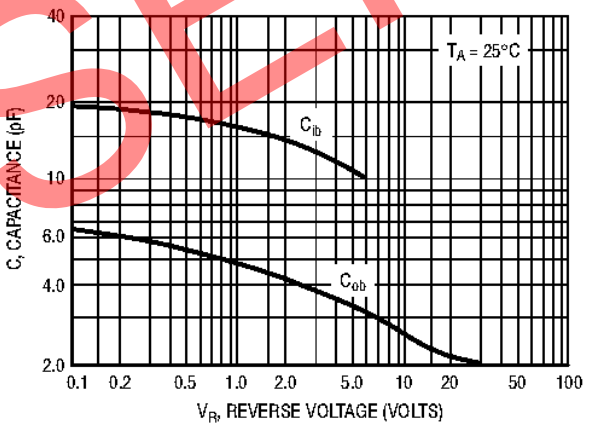


Figure 11. Capacitance

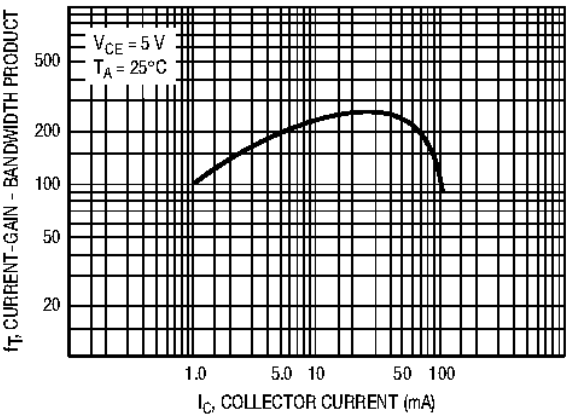


Figure 12. Current–Gain – Bandwidth Product