



**FUKUCOM COMPANY LTD.**

**福 靈 有 限 公 司**

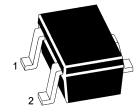
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

**BC846W...BC850W**

**NPN Silicon Epitaxial Planar Transistor**

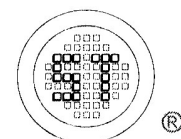
for general purpose and switching applications



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

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V <sub>CBO</sub>	80	V
BC846W		50	
BC847W		30	
BC848W		30	
BC849W		50	
BC850W			
Collector Emitter Voltage	V <sub>CEO</sub>	65	V
BC846W		45	
BC847W		30	
BC848W		30	
BC849W		45	
BC850W			
Emitter Base Voltage	V <sub>EBO</sub>	6	V
BC846W		6	
BC847W		5	
BC848W		5	
BC849W		5	
BC850W			
Collector Current	I <sub>C</sub>	100	mA
Peak Collector Current	I <sub>CM</sub>	200	mA
Total Power Dissipation	P <sub>tot</sub>	200	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>S</sub>	- 55 to + 150	°C



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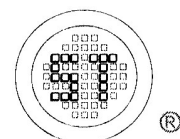
Dated : 21/06/2006

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**BC846W...BC850W****Characteristics at  $T_a = 25\text{ }^\circ\text{C}$** 

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$				
BC846AW~BC850AW	$h_{FE}$	110	220	-
BC846BW~BC850BW	$h_{FE}$	200	450	-
BC846CW~BC850CW	$h_{FE}$	420	800	-
Collector Base Voltage at $I_C = 10\text{ }\mu\text{A}$				
BC846W	$V_{CBO}$	80	-	V
BC847W		50	-	
BC848W		30	-	
BC849W		30	-	
BC850W		50	-	
Collector Emitter Voltage at $I_C = 10\text{ mA}$				
BC846W	$V_{CEO}$	65	-	V
BC847W		45	-	
BC848W		30	-	
BC849W		30	-	
BC850W		45	-	
Emitter Base Voltage at $I_E = 1\text{ }\mu\text{A}$				
BC846W	$V_{EBO}$	6	-	V
BC847W		6	-	
BC848W		5	-	
BC849W		5	-	
BC850W		5	-	
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 $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$ $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$	$V_{BE}$	0.58 -	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

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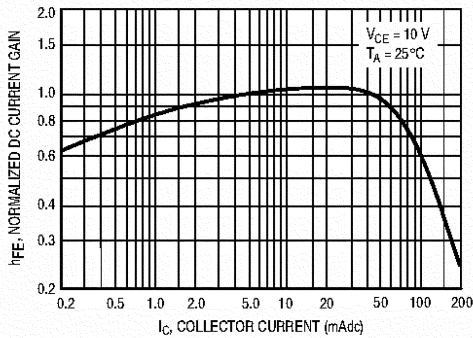


Figure 1. Normalized DC Current Gain

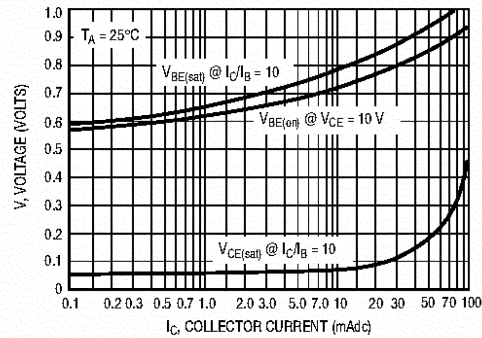


Figure 2. "Saturation" and "On" Voltages

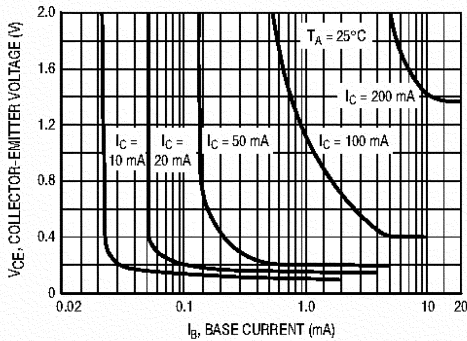


Figure 3. Collector Saturation Region

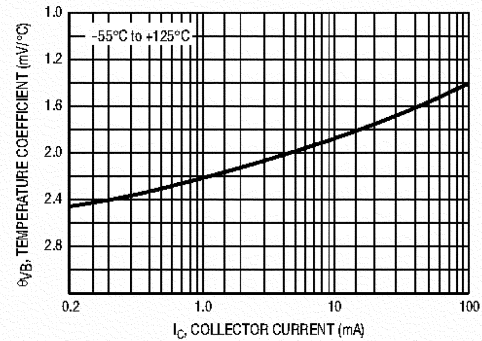


Figure 4. Base-Emitter Temperature Coefficient

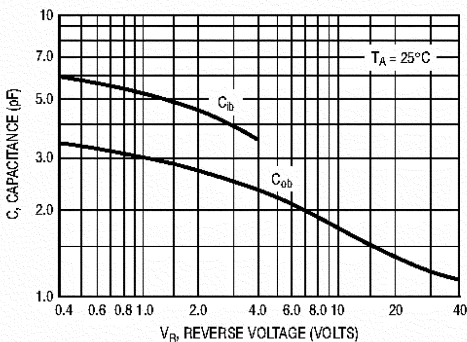


Figure 5. Capacitances

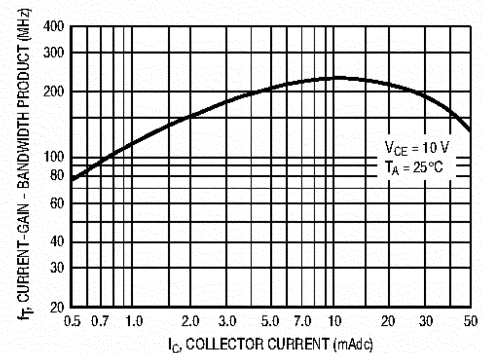
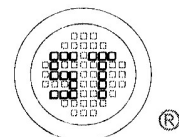


Figure 6. Current-Gain - Bandwidth Product



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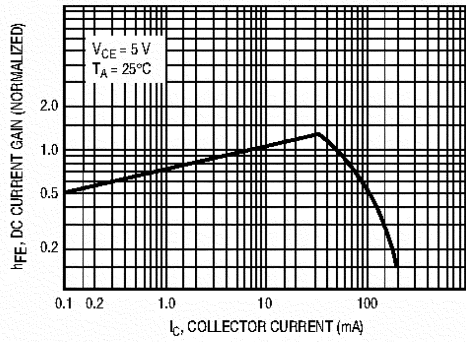


Figure 7. DC Current Gain

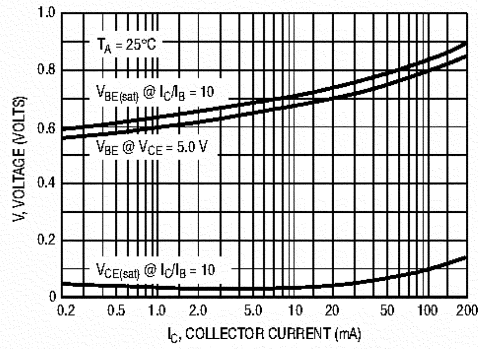


Figure 8. "On" Voltage

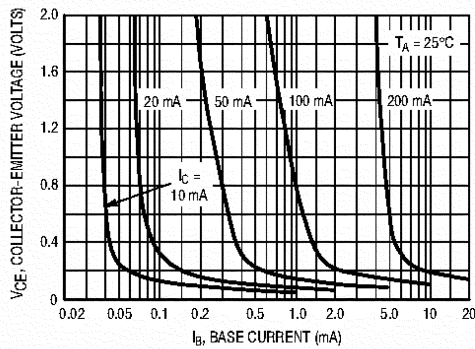


Figure 9. Collector Saturation Region

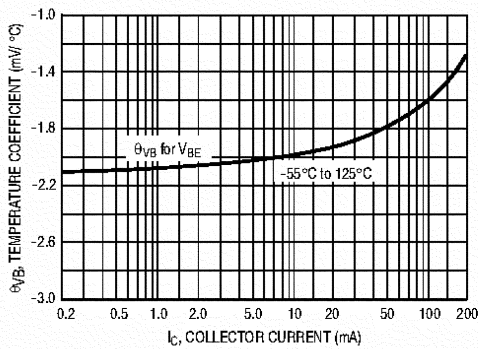


Figure 10. Base-Emitter Temperature Coefficient

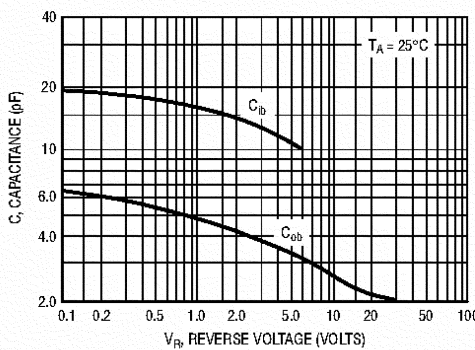


Figure 11. Capacitance

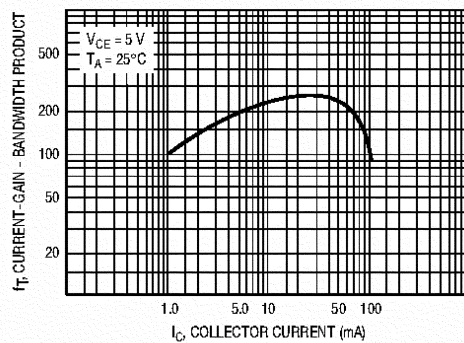
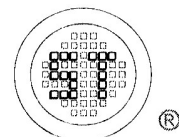


Figure 12. Current-Gain - Bandwidth Product



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