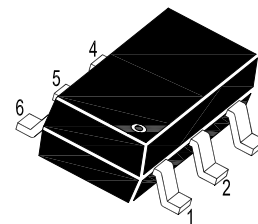
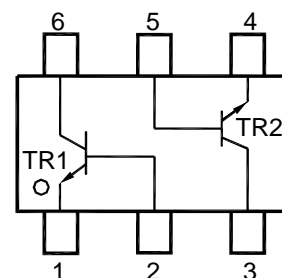


BC846DW...BC850DW

NPN Silicon Epitaxial Planar Transistor

for general purpose and switching applications



1. Emitter 2. Base 3. Collector
4. Emitter 5. Base 6. Collector
SOT-363 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	80	V
BC846DW		50	
BC847DW		30	
BC848DW		30	
BC849DW		50	
Collector Emitter Voltage	V_{CEO}	65	V
BC846DW		45	
BC847DW		30	
BC848DW		30	
BC849DW		45	
Emitter Base Voltage	V_{EBO}	6	V
BC846DW		6	
BC847DW		5	
BC848DW		5	
BC849DW		5	
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Total Power Dissipation	P_{tot}	250	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

BC846DW...BC850DW

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	BC846ADW~BC850ADW	h_{FE}	110	220	-
	BC846BDW~BC850BDW	h_{FE}	200	450	-
	BC846CDW~BC850CDW	h_{FE}	420	800	-
Collector Base Voltage at $I_C = 10\text{ }\mu\text{A}$	BC846DW	V_{CBO}	80	-	V
	BC847DW		50	-	
	BC848DW		30	-	
	BC849DW		30	-	
	BC850DW		50	-	
Collector Emitter Voltage at $I_C = 10\text{ mA}$	BC846DW	V_{CEO}	65	-	V
	BC847DW		45	-	
	BC848DW		30	-	
	BC849DW		30	-	
	BC850DW		45	-	
Emitter Base Voltage at $I_E = 1\text{ }\mu\text{A}$	BC846DW	V_{EBO}	6	-	V
	BC847DW		6	-	
	BC848DW		5	-	
	BC849DW		5	-	
	BC850DW		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	V	
		-	0.6		
Base Emitter Voltage at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$	V_{BE}	0.58	0.7	V	
		-	0.77		
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	

BC846DW...BC850DW

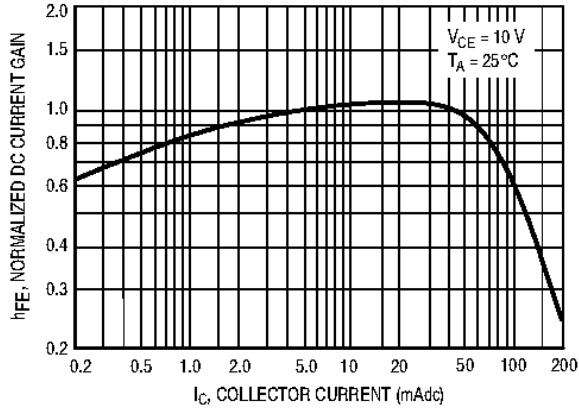


Figure 1. Normalized DC Current Gain

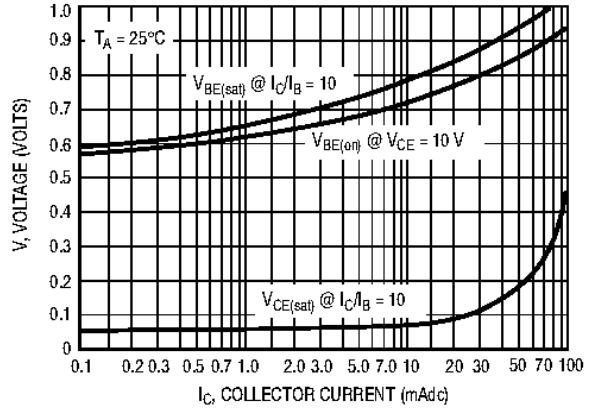


Figure 2. "Saturation" and "On" Voltages

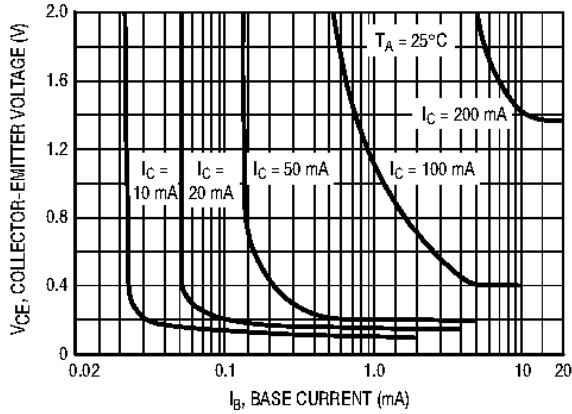


Figure 3. Collector Saturation Region

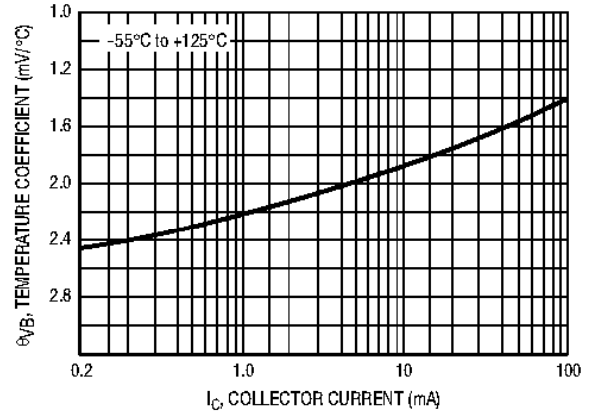


Figure 4. Base-Emitter Temperature Coefficient

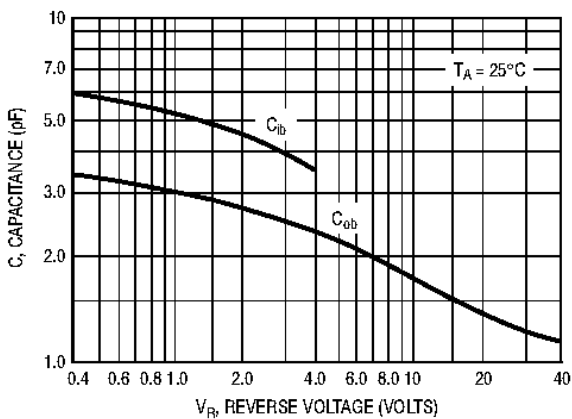


Figure 5. Capacitances

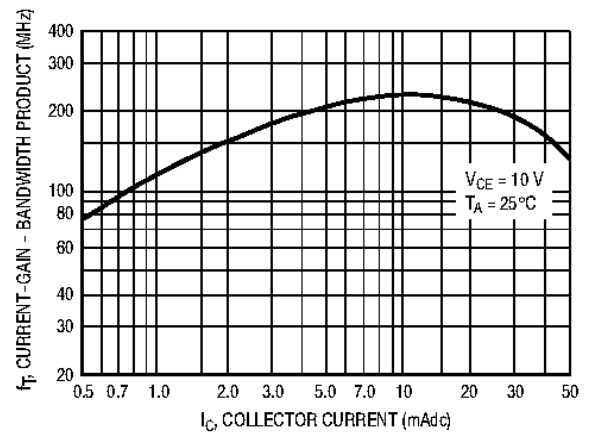


Figure 6. Current-Gain - Bandwidth Product

BC846DW...BC850DW

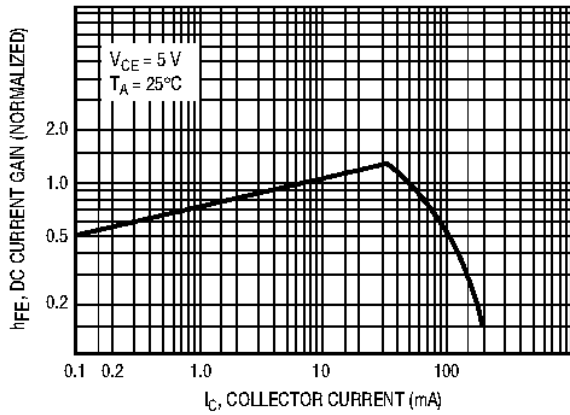


Figure 7. DC Current Gain

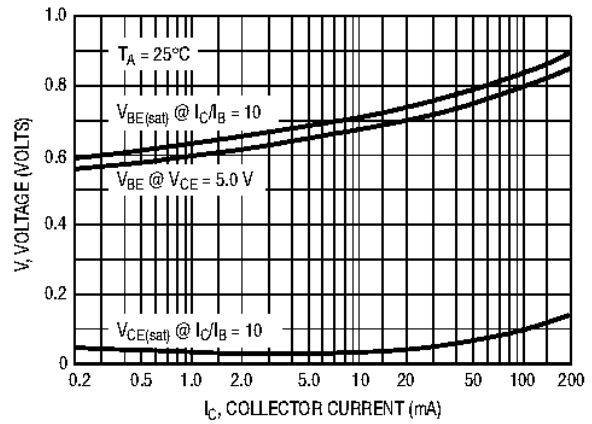


Figure 8. "On" Voltage

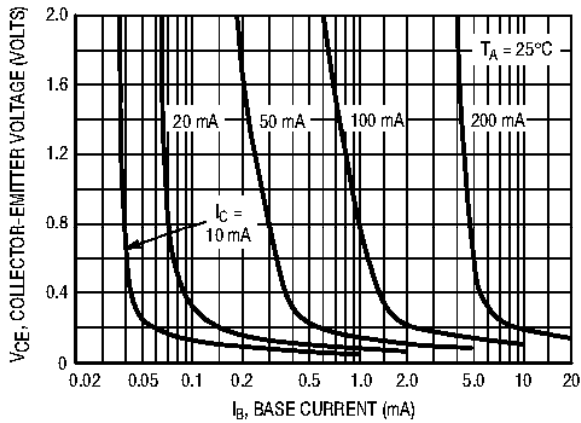


Figure 9. Collector Saturation Region

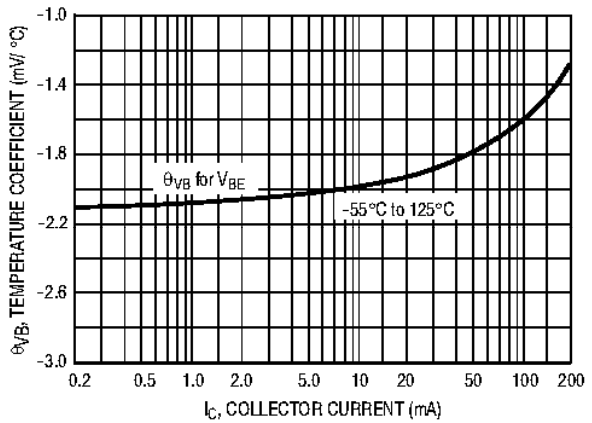


Figure 10. Base-Emitter Temperature Coefficient

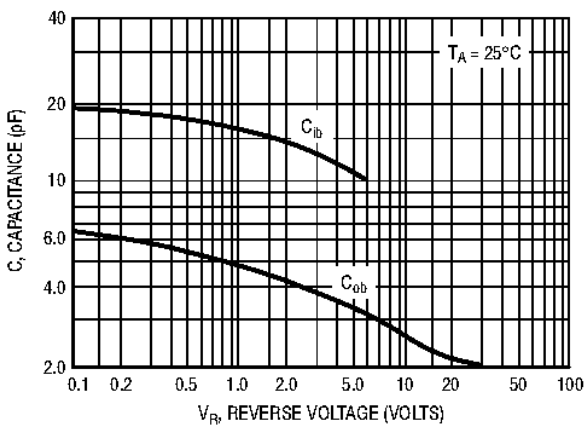


Figure 11. Capacitance

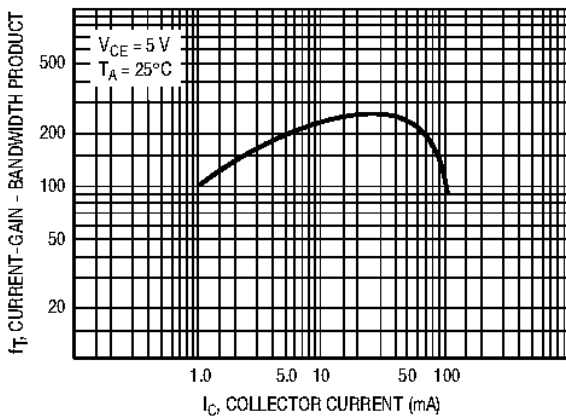


Figure 12. Current-Gain - Bandwidth Product