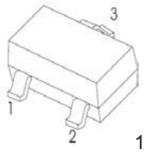
BC846AW THRU BC848CW

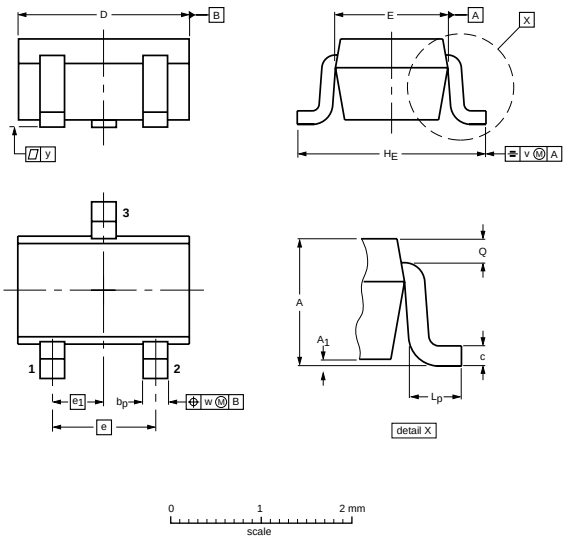
NPN Silicon Epitaxial Planar Transistor

for general purpose and switching applications



1.BASE
2.EMITTER
3.COLLECTOR

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

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Collector Base Voltage	BC846W BC847W BC848W	V_{CBO}	80 50 30	V
Collector Emitter Voltage	BC846W BC847W BC848W	V_{CEO}	65 45 30	V
Emitter Base Voltage	BC846W BC847W BC848W	V_{EBO}	6 6 5	V
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

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Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 2 mA	BC846AW~BC848AW BC846BW~BC848BW BC847CW~BC848CW	h_{FE} h_{FE} h_{FE}	110 200 420	220 450 800	- - -
Collector Base Voltage at I_C = 10 µA	BC846xW BC847xW BC848xW	V_{CBO}	80 50 30 30 50	- - - - -	V
Collector Emitter Voltage at I_C = 10 mA	BC846W BC847W BC848W	V_{CEO}	65 45 30	- - - - -	V
Emitter Base Voltage at I_E = 1 µA	BC846W BC847W BC848W	V_{EBO}	6 6 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 I_C = 100 mA, I_B = 5 mA		$V_{CE(sat)}$	- -	0.25 0.6	V
Base Emitter Voltage at V_{CE} = 5 V, I_C = 2 mA V_{CE} = 5 V, I_C = 10 mA		V_{BE}	0.58 -	0.7 0.77	V
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

RATING AND CHARACTERISTIC CURVES (BC846AW THRU BC848CW)

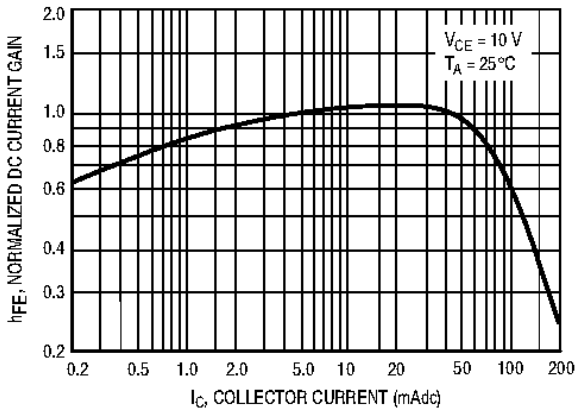

Figure 1. Normalized DC Current Gain

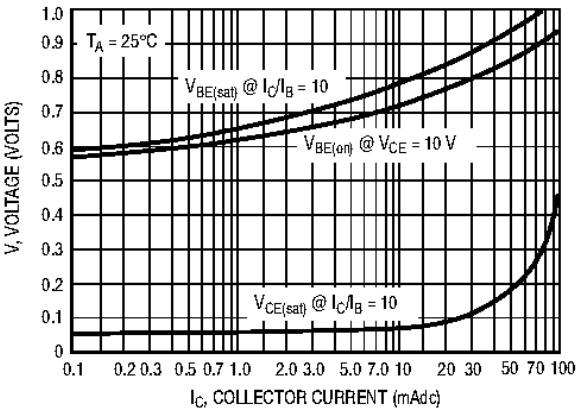

Figure 2. "Saturation" and "On" Voltages

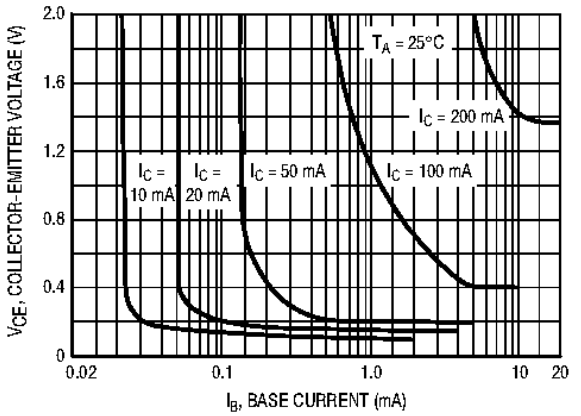

Figure 3. Collector Saturation Region

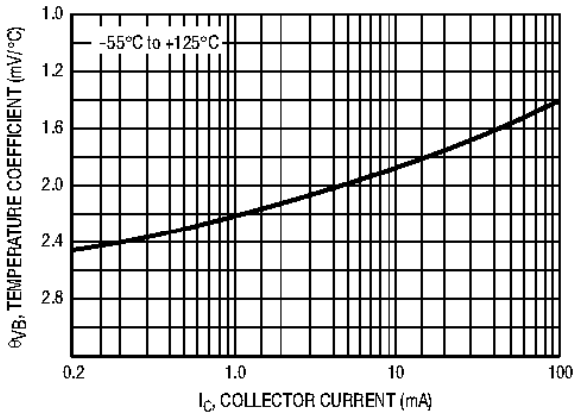

Figure 4. Base−Emitter Temperature Coefficient

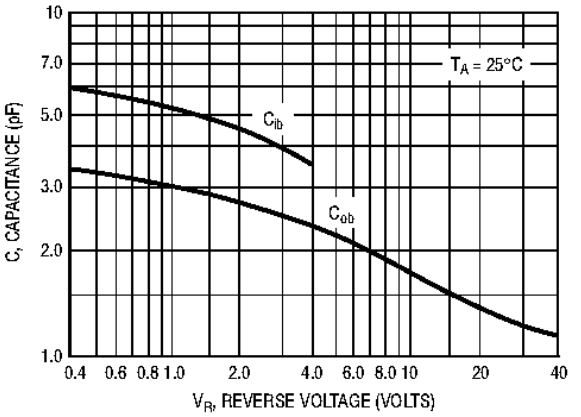

Figure 5. Capacitances

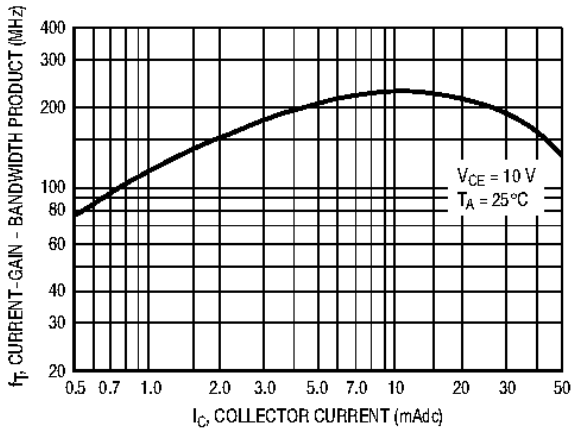

Figure 6. Current−Gain − Bandwidth Product

RATING AND CHARACTERISTIC CURVES (BC846AW THRU BC848CW)

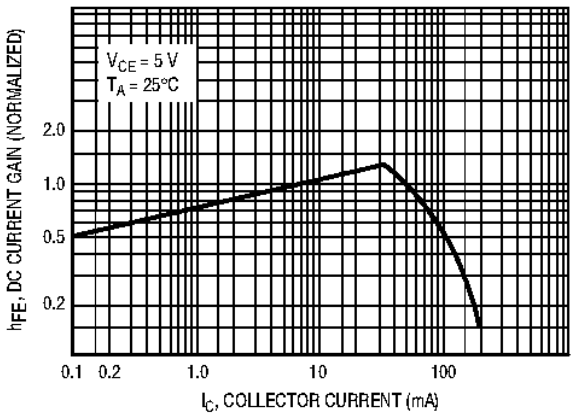

Figure 7. DC Current Gain

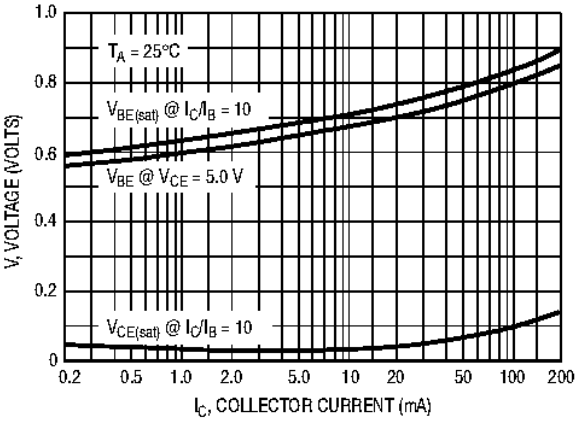

Figure 8. "On" Voltage

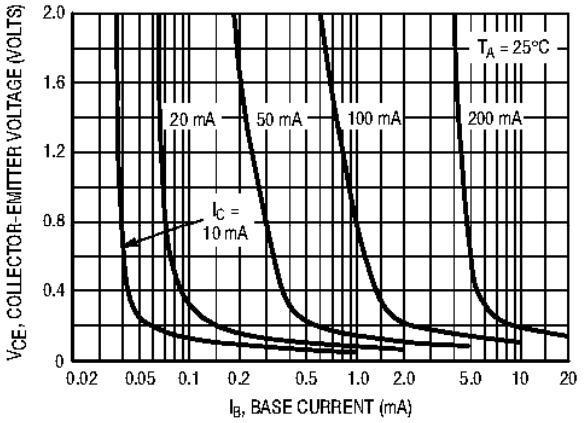

Figure 9. Collector Saturation Region

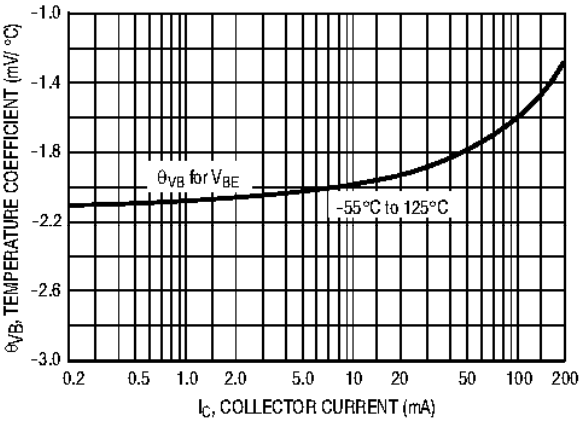

Figure 10. Base−Emitter Temperature Coefficient

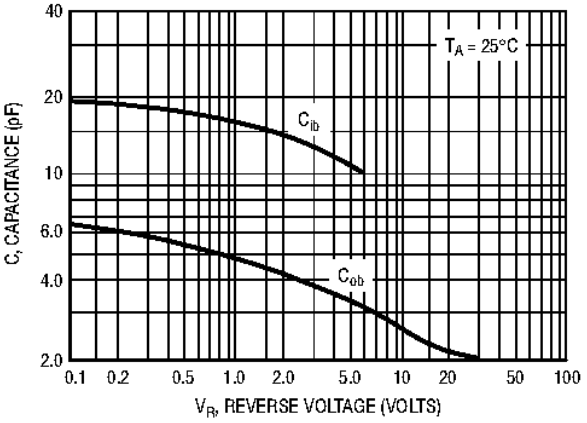

Figure 11. Capacitance

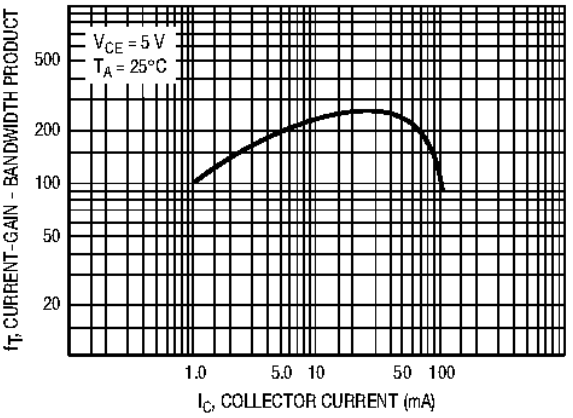

Figure 12. Current−Gain − Bandwidth Product