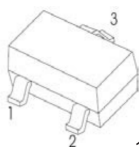


BC846AW THRU BC848CW

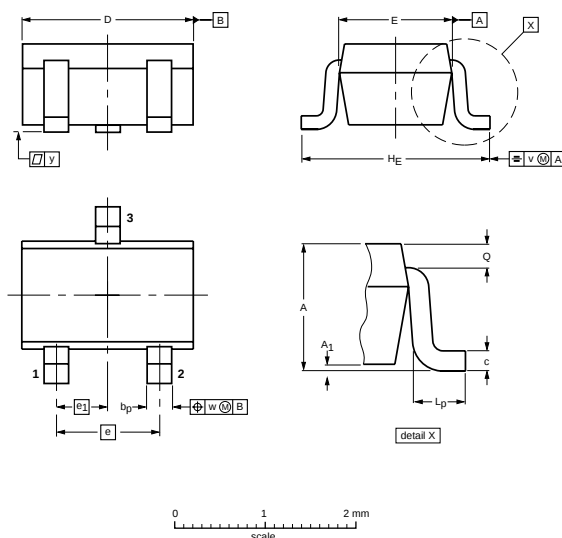
NPN SILICON EPITAXIAL PLANAR TRANSISTOR

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	V _{CBO}	80 50 30	V
Collector Emitter Voltage	V _{CEO}	65 45 30	V
Emitter Base Voltage	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

BC846AW THRU BC848CW

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~BC848AW h_{FE} BC846BW~BC848BW h_{FE} BC847CW~BC848CW h_{FE}	110 200 420	220 450 800	- - -
Collector Base Voltage at $I_C = 10\text{ }\mu\text{A}$	BC846xW V_{CBO} BC847xW BC848xW	80 50 30 30 50	- - - - -	V
Collector Emitter Voltage at $I_C = 10\text{ mA}$	BC846W V_{CEO} BC847W BC848W	65 45 30	- - - - -	V
Emitter Base Voltage at $I_E = 1\text{ }\mu\text{A}$	BC846W V_{EBO} BC847W BC848W	6 6 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}	0.58 -	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

RATING AND CHARACTERISTIC CURVES (BC846AW THRU BC848CW)

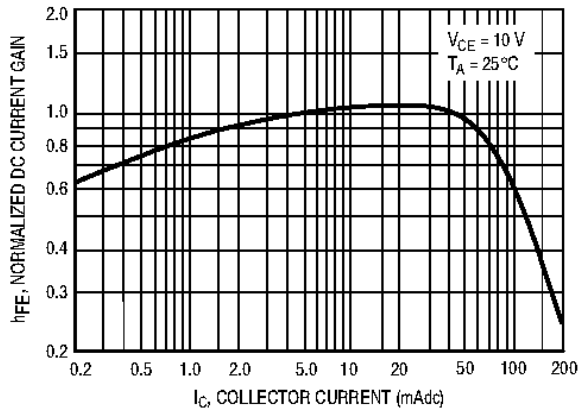


Figure 1. Normalized DC Current Gain

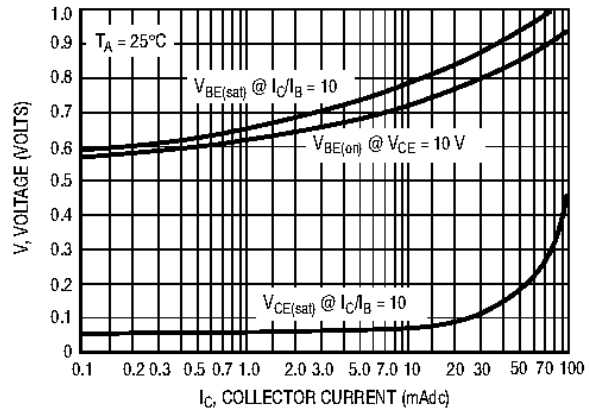


Figure 2. "Saturation" and "On" Voltages

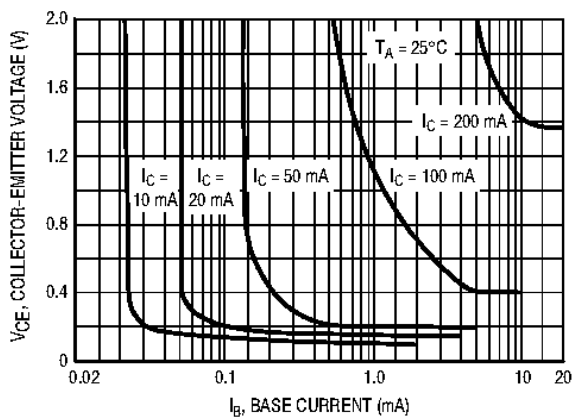


Figure 3. Collector Saturation Region

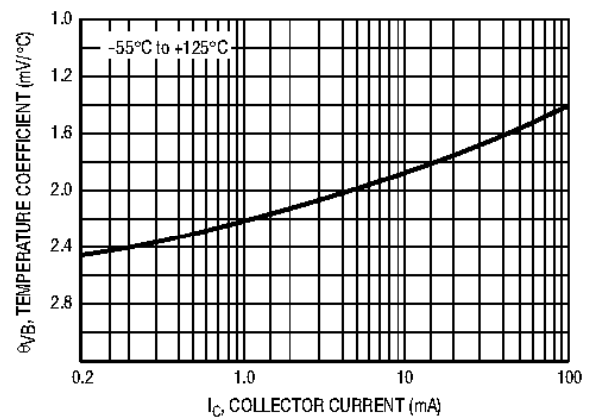


Figure 4. Base-Emitter Temperature Coefficient

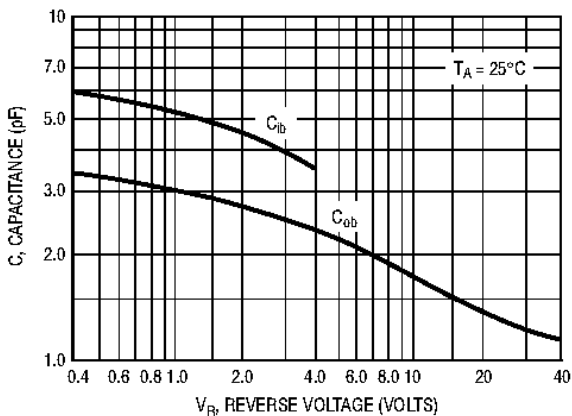


Figure 5. Capacitances

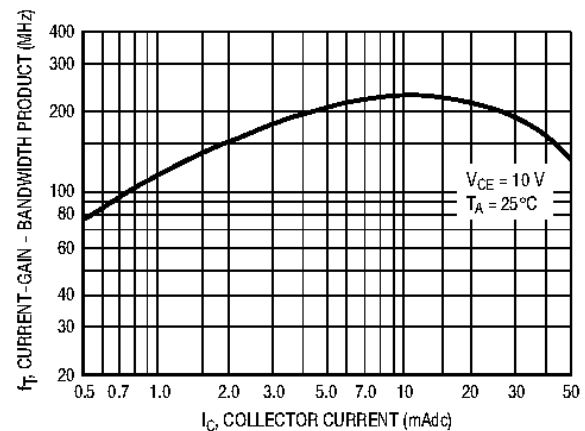


Figure 6. Current-Gain - Bandwidth Product

RATING AND CHARACTERISTIC CURVES (BC846AW THRU BC848CW)

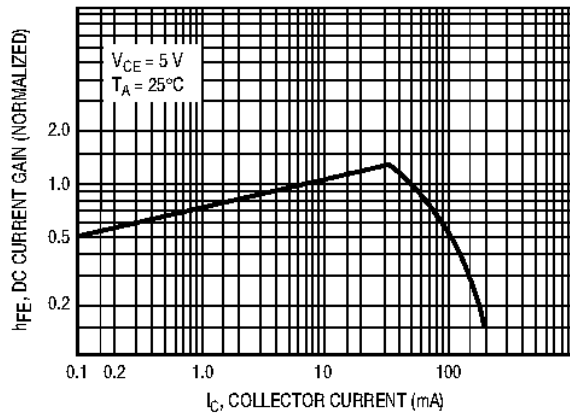


Figure 7. DC Current Gain

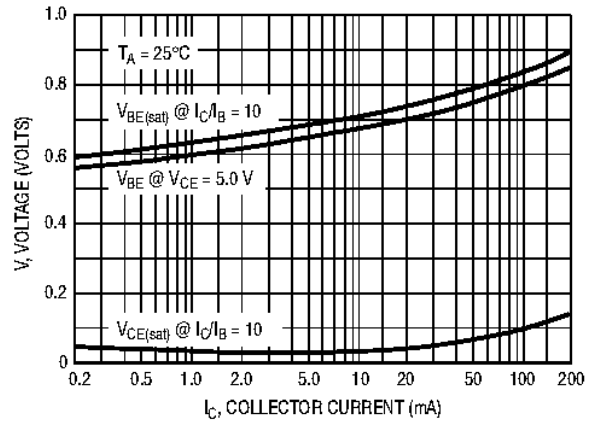


Figure 8. "On" Voltage

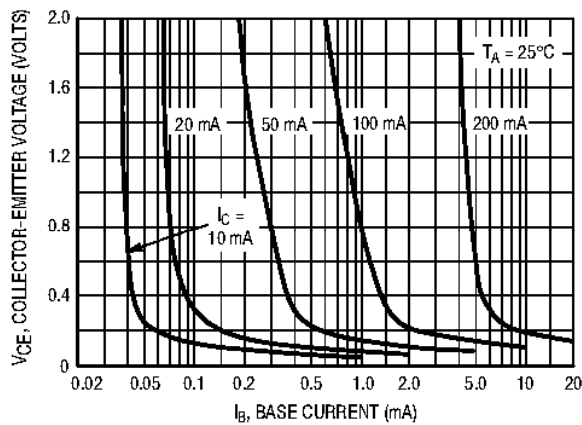


Figure 9. Collector Saturation Region

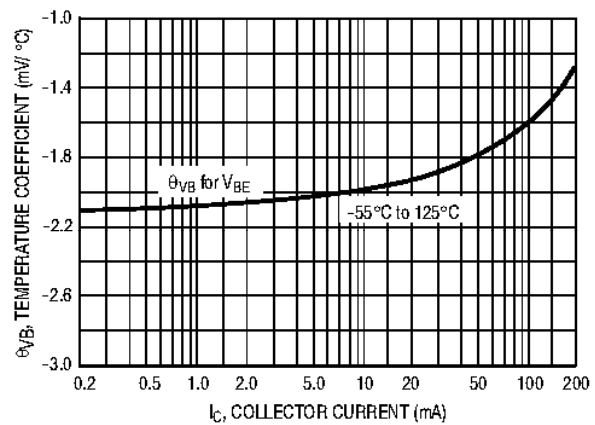


Figure 10. Base-Emitter Temperature Coefficient

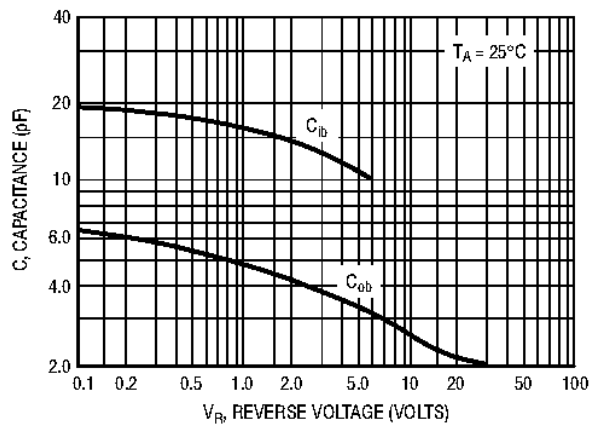


Figure 11. Capacitance

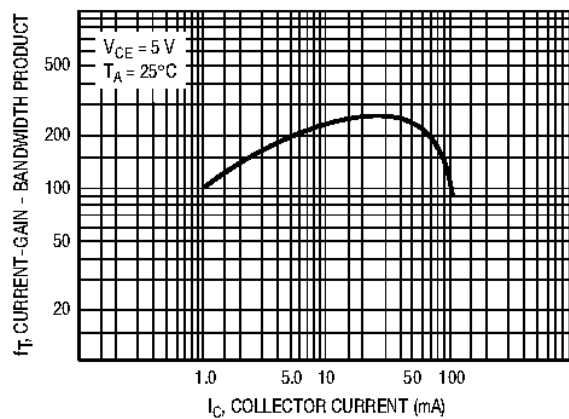


Figure 12. Current-Gain - Bandwidth Product