



Micro Commercial Components

Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

**BC846AW/BW
 BC847AW/BW/CW
 BC848AW/BW/CW**

Features

- Low current (max. 100mA)
- Low voltage (max. 65V)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

Maximum Ratings

- Operating temperature : -65°C to +150°C
- Storage temperature : -65°C to +150°C
- Thermal resistance from junction to ambient*: 625K/W
- Marking: BC846AW---1A ; BC846BW---1B
 BC847AW---1E ; BC847BW---1F ; BC847CW---1G
 BC848AW---1JS/1J ; BC848BW---1KS/1K ; BC848CW---1LS/1L

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
--------	-----------	-----	-----	-------

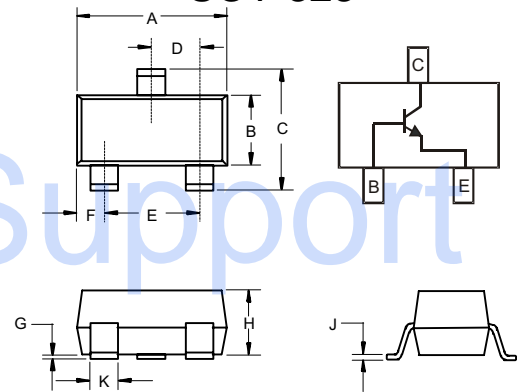
OFF CHARACTERISTICS

$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=10\mu A_{dc}$, $I_E=0$)			Vdc
	BC846AW/BW	---	80	
	BC847AW/BW/CW	---	50	
	BC848AW/BW/CW	---	30	
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=10mAdc$, $I_B=0$)			Vdc
	BC846AW/BW	---	65	
	BC847AW/BW/CW	---	45	
	BC848AW/BW/CW	---	30	
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=1\mu A_{dc}$, $I_C=0$)			Vdc
	BC846AW/BW, BC847AW/BW/CW	---	6	
	BC848AW/BW/CW	---	5	
I_C	Collector Current (DC)	---	100	mAdc
I_{CM}	Peak Collector Current	---	200	mAdc
I_{BM}	Peak Base Current	---	200	mAdc

* Transistor mounted on an FR4 printed-circuit board

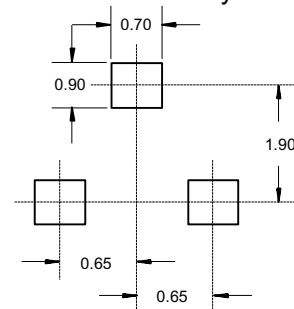
**NPN
 General Purpose
 Transistors**

SOT-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65 Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

**Suggested Solder
 Pad Layout**



ON CHARACTERISTICS

Symbol	Parameter	Min	Typ	Max	Units
I _{CBO}	Collector-base Cut-off Current (I _{CE} =0, V _{CB} =30Vdc) (I _{CE} =0, V _{CB} =30Vdc, T _J =150°C)	---	---	15	nA
		---	---	5	μA
I _{CEO}	Emitter-base Cut-off Current (I _C =0, V _{EB} =5Vdc)	---	---	100	nA
V _{CE(sat)}	Collector-Emitter Saturation Voltage (I _C =10mAdc, I _B =0.5mAdc) (I _C =100mAdc, I _B =5mAdc*)	---	90	250	mVdc
		---	200	600	mVdc
V _{BE(sat)}	Base-Emitter Saturation Voltage (I _C =10mAdc, I _B =0.5mAdc) (I _C =100mAdc, I _B =5mAdc*)	---	700	---	mVdc
		---	900	---	mVdc
h _{FE}	DC Current Gain (I _C =10μA; V _{CE} =5V) BC846AW; BC847AW; BC848AW BC846BW; BC847BW; BC848BW BC847CW; BC848CW	---	90	---	
		---	150	---	
		---	270	---	
	DC Current Gain (I _C =2mA; V _{CE} =5V) BC846AW; BC847AW; BC848AW BC846BW; BC847BW; BC848BW BC847CW; BC848CW	110	180	220	
		200	290	450	
		420	520	800	
V _{BE}	Base-emitter Voltage (I _C =2mAdc, V _{CE} =5V) (I _C =10mAdc, V _{CE} =5V)	580 ---	660 ---	700 770	mVdc mVdc
C _C	Collector Capacitance (V _{CB} =10V; I _E =I _C =0; f=1MHz)	---	---	4.5	pF
f _T	Transition Frequency (V _{CE} =5V; I _C =10mA; f=100MHz)	100	---	---	MHz
F	Noise Figure (V _{CE} =5V; I _C =200μA; f=1KHz; B=200Hz; R _S =2KΩ)	---	---	10	dB

* Pulse test: t_p ≤ 300μs; δ ≤ 0.02

Typical Characteristics

846AW, BW; BC847AW, BW, CW; BC848AW, BW, CW

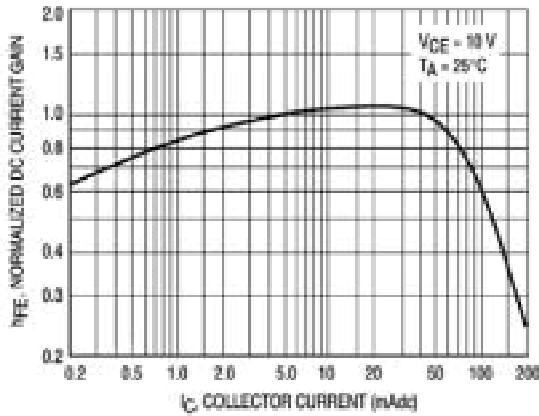


Figure 1. Normalized DC Current Gain

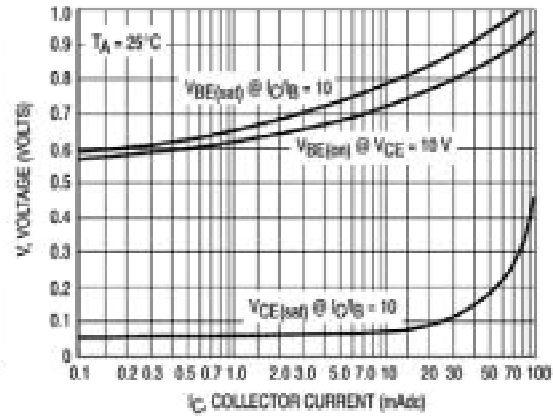


Figure 2. "Saturation" and "On" Voltages

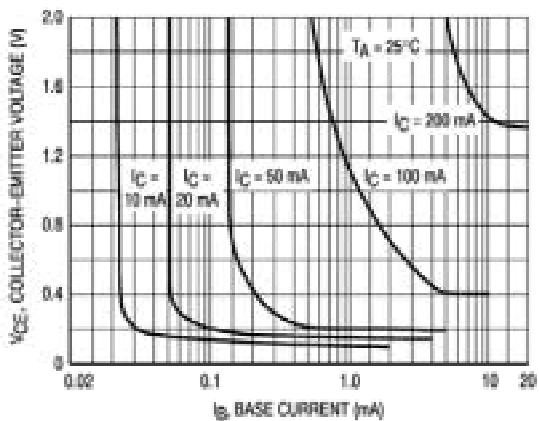


Figure 3. Collector Saturation Region

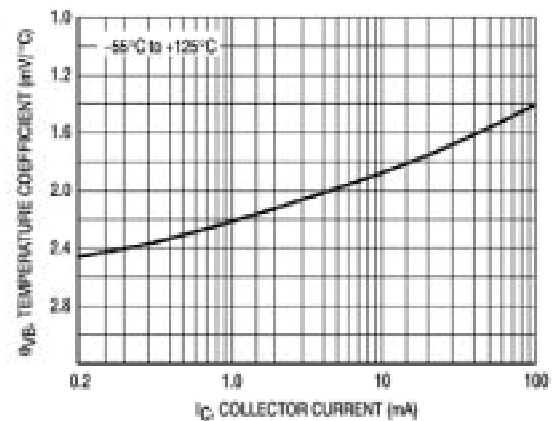


Figure 4. Base-Emitter Temperature Coefficient

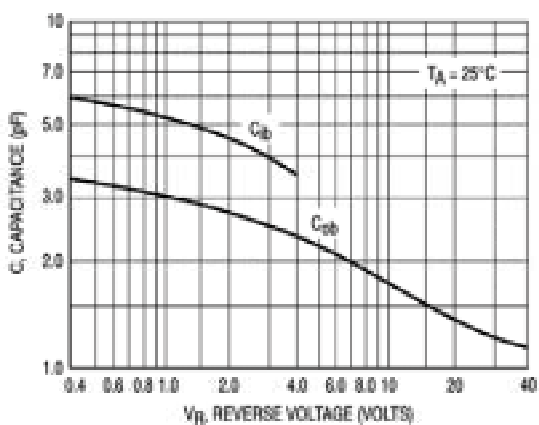


Figure 5. Capacitances

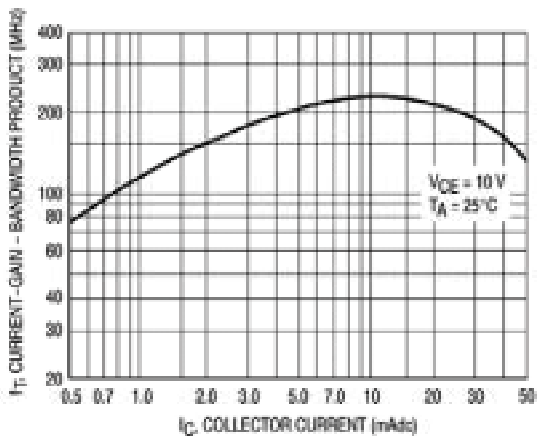


Figure 6. Current-Gain - Bandwidth Product

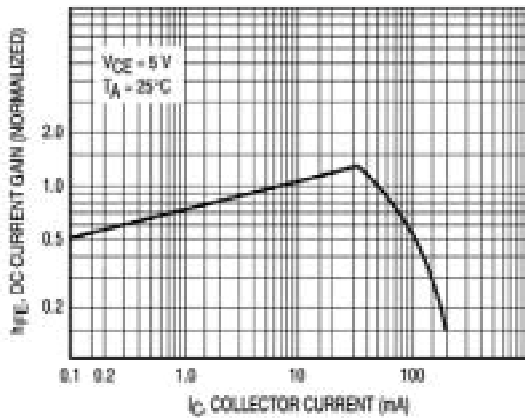


Figure 7. DC Current Gain

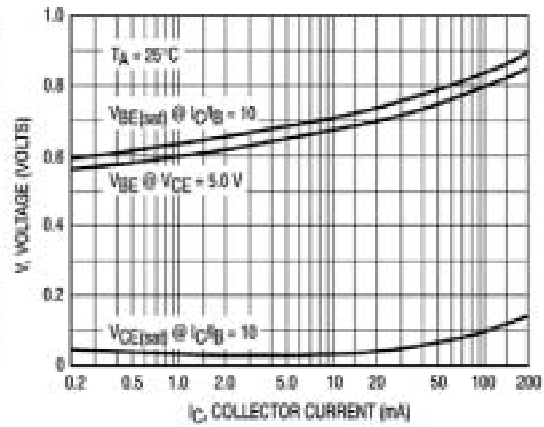


Figure 8. "On" Voltage

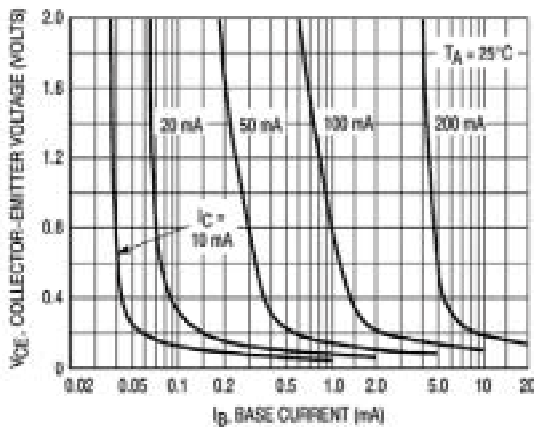


Figure 9. Collector Saturation Region

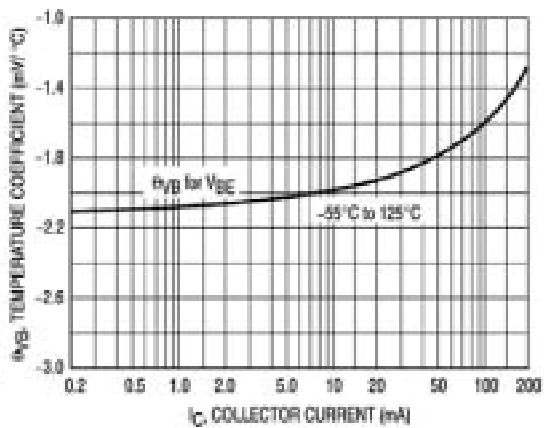


Figure 10. Base-Emitter Temperature Coefficient

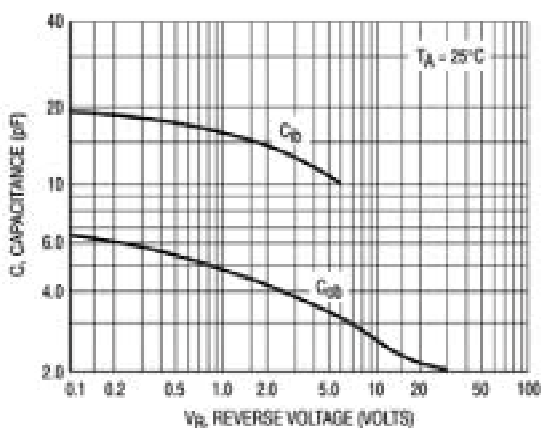


Figure 11. Capacitance

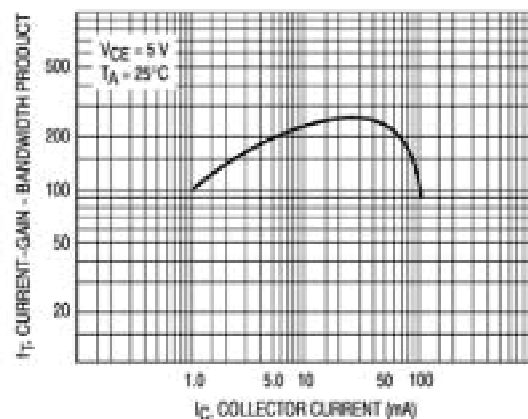


Figure 12. Current-Gain - Bandwidth Product



Micro Commercial Components

Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. *Micro Commercial Components Corp.* does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold *Micro Commercial Components Corp.* and all the companies whose products are represented on our website, harmless against all damages.

APPLICATIONS DISCLAIMER

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.