



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
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BC846AW/BW BC847AW/BW/CW BC848AW/BW/CW

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Low current (max. 100mA)
- Low voltage (max. 65V)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

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
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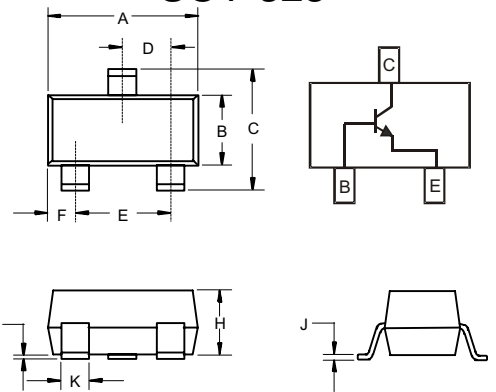
OFF CHARACTERISTICS

$V_{(BR)CBO}$	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

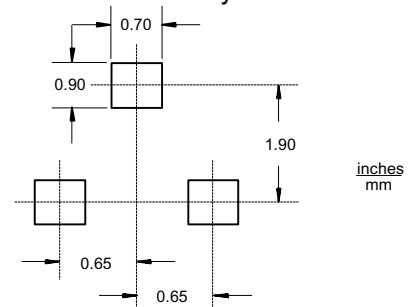
NPN General Purpose Transistors

SOT-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
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	mVdc
		---	---	770	mVdc
C _C	Collector Capacitance (V _{CB} =10V; I _E =I _B =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

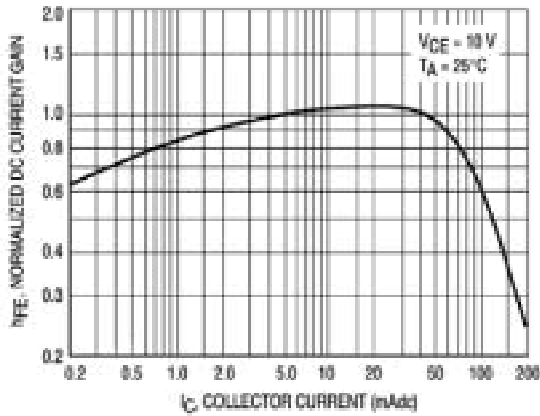


Figure 1. Normalized DC Current Gain

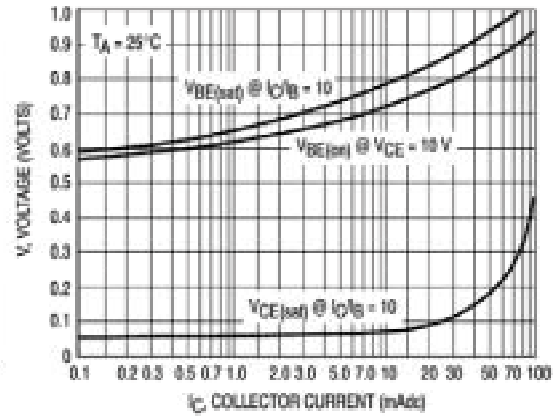


Figure 2. "Saturation" and "On" Voltages

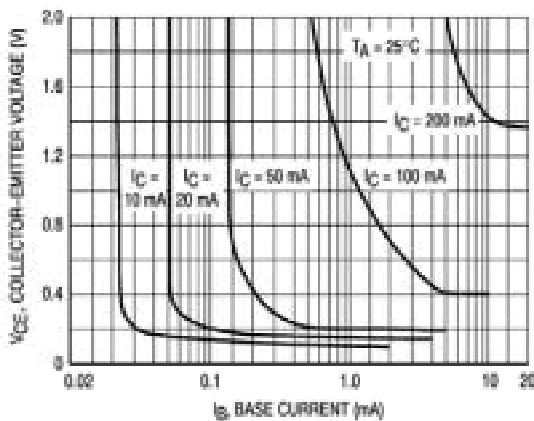


Figure 3. Collector Saturation Region

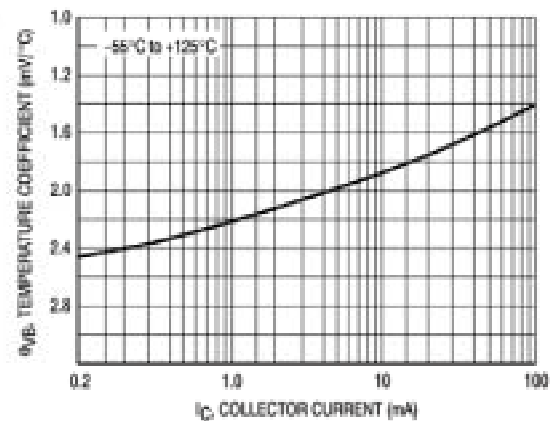


Figure 4. Base-Emitter Temperature Coefficient

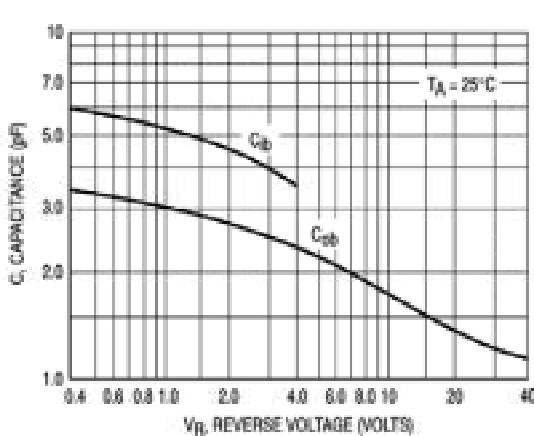


Figure 5. Capacitances

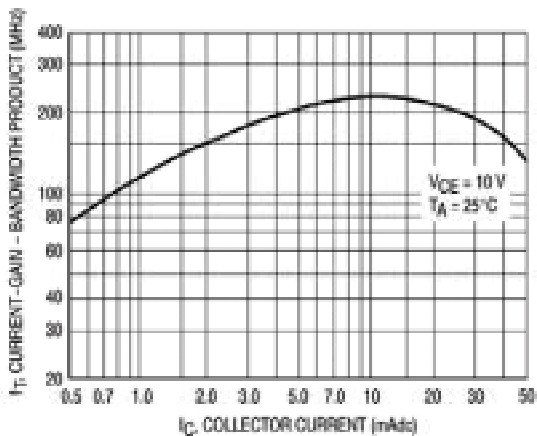


Figure 6. Current-Gain - Bandwidth Product

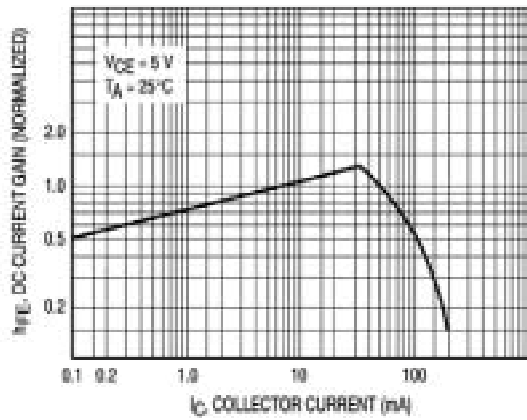


Figure 7. DC Current Gain

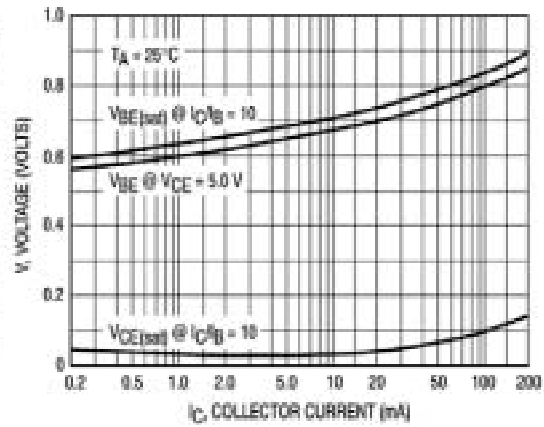


Figure 8. "On" Voltage

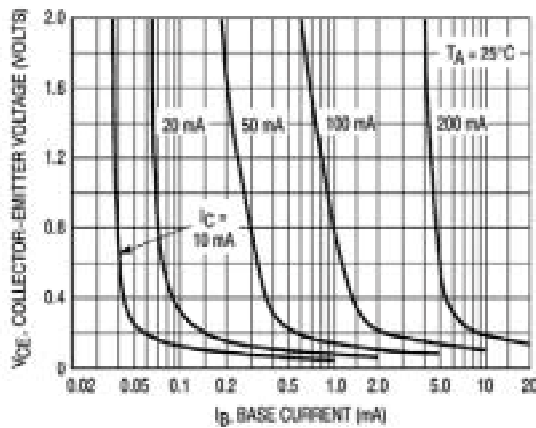


Figure 9. Collector Saturation Region

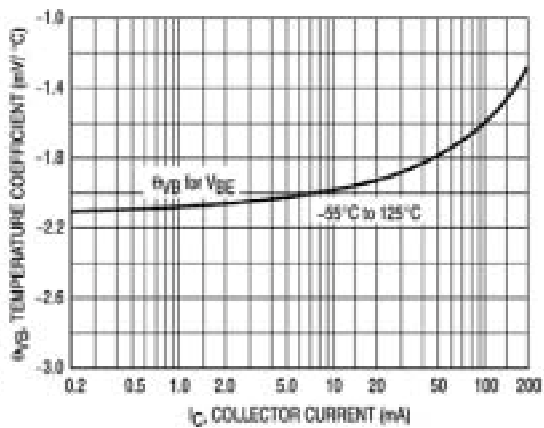


Figure 10. Base-Emitter Temperature Coefficient

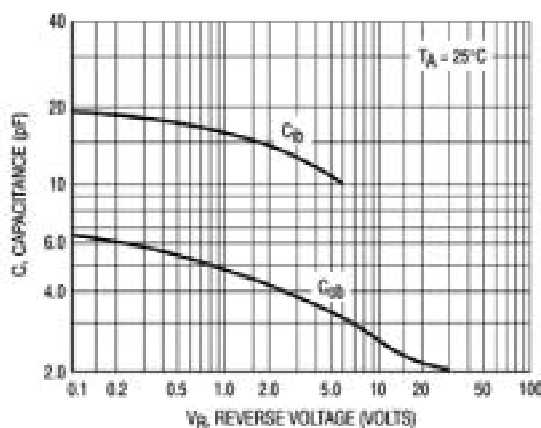


Figure 11. Capacitance

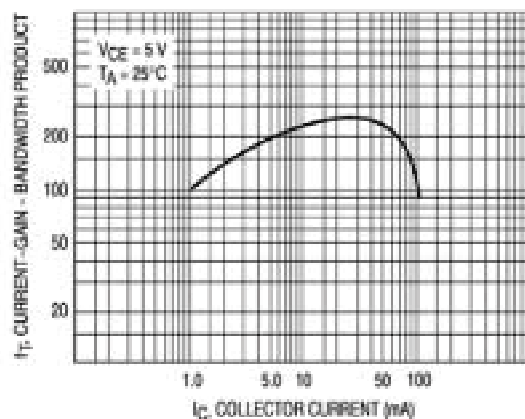


Figure 12. Current-Gain - Bandwidth Product



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Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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