



Micro Commercial Components

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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
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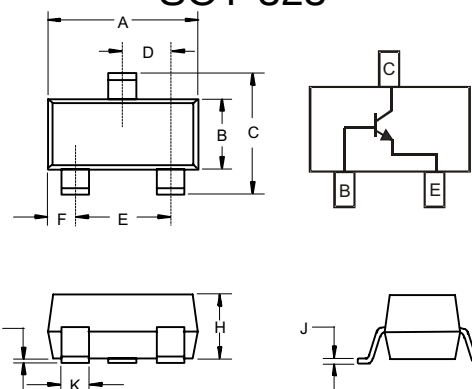
OFF CHARACTERISTICS

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

* Transistor mounted on an FR4 printed-circuit board

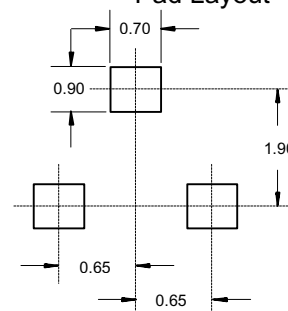
NPN
General Purpose
Transistors

SOT-323



DIMENSIONS					
DIM	INCHES		MM		NOTE
	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		0.65Nominal		
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 ($I_{CE}=0$, $V_{CB}=30V_{dc}$) ($I_{CE}=0$, $V_{CB}=30V_{dc}$, $T_J=150^{\circ}C$)	---	---	15 5	nA μA
I_{CEO}	Emitter-base Cut-off Current ($I_C=0$, $V_{EB}=5V_{dc}$)	---	---	100	nA
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=10mAdc$, $I_B=0.5mAdc$) ($I_C=100mAdc$, $I_B=5mAdc^*$)	---	90 200	250 600	mVdc mVdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=10mAdc$, $I_B=0.5mAdc$) ($I_C=100mAdc$, $I_B=5mAdc^*$)	---	700 900	---	mVdc mVdc
h_{FE}	DC Current Gain ($I_C=10\mu A$; $V_{CE}=5V$) BC846AW; BC847AW;BC848AW BC846BW; BC847BW;BC848BW BC847CW;BC848CW DC Current Gain ($I_C=2mA$; $V_{CE}=5V$) BC846AW; BC847AW;BC848AW BC846BW; BC847BW;BC848BW BC847CW;BC848CW	---	90 150 270	---	
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 ($V_{CB}=10V$; $I_E=I_B=0$; $f=1MHz$)	---	---	4.5	pF
f_T	Transition Frequency ($V_{CE}=5V$; $I_C=10mA$; $f=100MHz$)	100	---	---	MHz
F	Noise Figure ($V_{CE}=5V$; $I_C=200\mu A$; $f=1KHz$; $B=200Hz$; $R_S=2K\Omega$)	---	---	10	dB

* Pulse test: $t_p \leq 300\mu s$; $\delta \leq 0.02$

Typical Characteristics

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

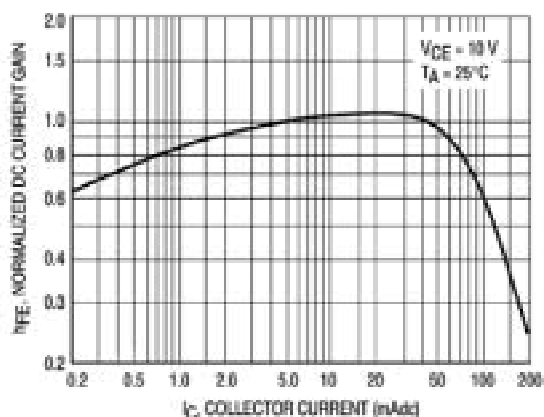


Figure 1. Normalized DC Current Gain

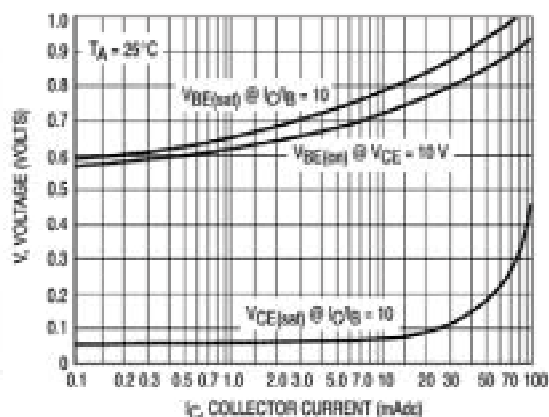


Figure 2. "Saturation" and "On" Voltages

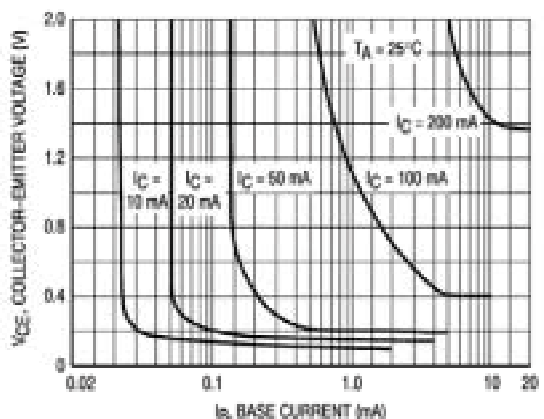


Figure 3. Collector Saturation Region

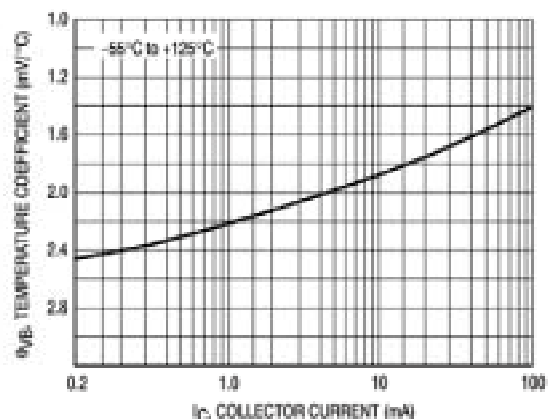


Figure 4. Base-Emitter Temperature Coefficient

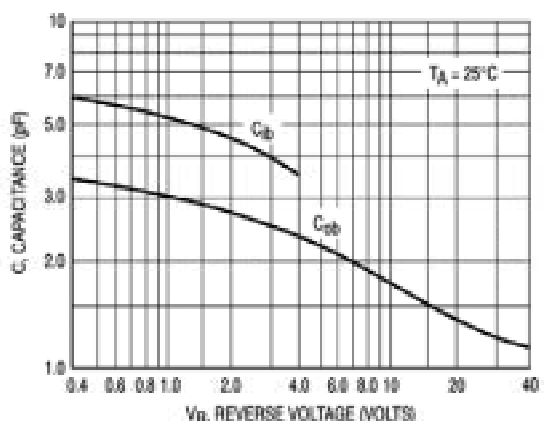


Figure 5. Capacitances

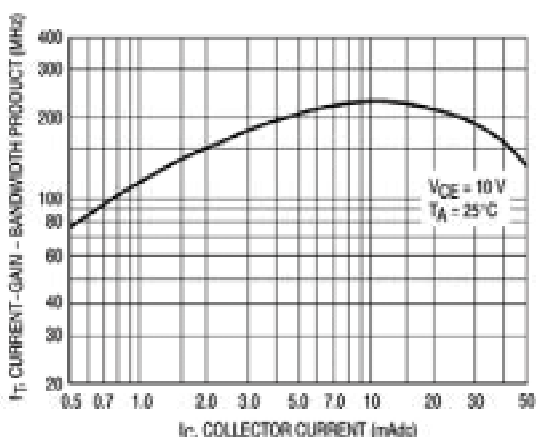


Figure 6. Current-Gain - Bandwidth Product

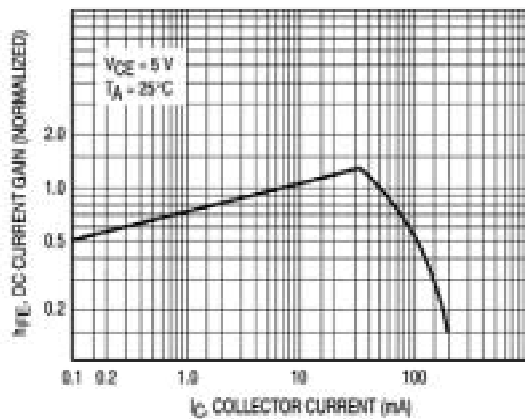


Figure 7. DC Current Gain

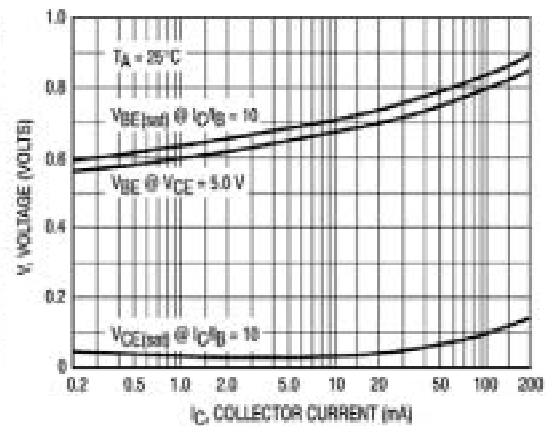


Figure 8. "On" Voltage

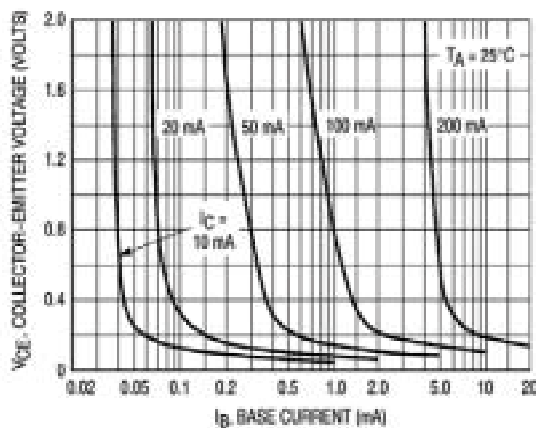


Figure 9. Collector Saturation Region

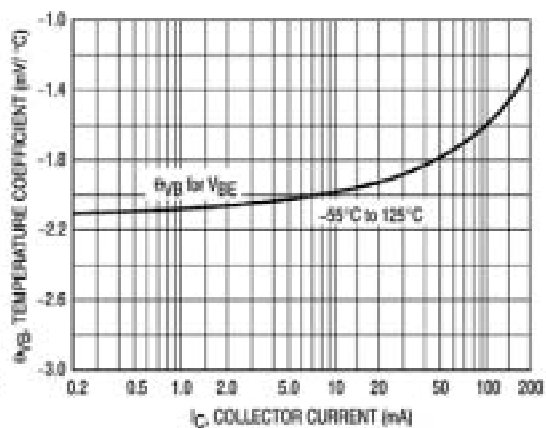


Figure 10. Base-Emitter Temperature Coefficient

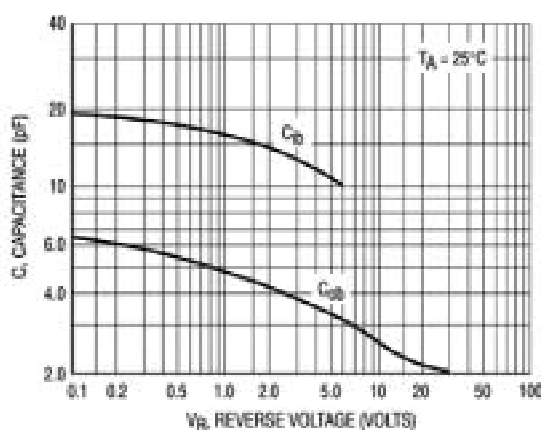


Figure 11. Capacitance

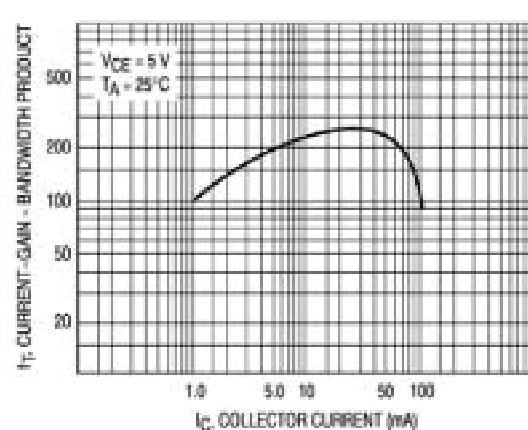


Figure 12. Current-Gain - Bandwidth Product

Ordering Information

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

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