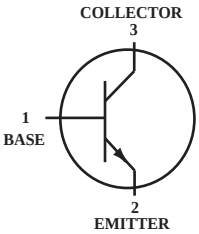
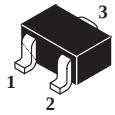
WEITRON

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

General Purpose Transistor
NPN Silicon

Lead(Pb)-Free





SOT-323(SC-70)

Maximum Ratings (T_A=25°C Unlesso therwise noted)

Rating		Symbol	Value	Unit
Collector-Emitter Voltage	BC846 BC847 BC848	V_{CEO}	65 45 30	V
Collector-Base Voltage	BC846 BC847 BC848	V_{CBO}	80 50 30	V
Emitter-Base Voltage	BC846 BC847 BC848	V_{EBO}	6.0 6.0 5.0	V
Collector Current-Continuous		I_C	100	mA

Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note.1) TA=25°C Derate above 25°C	P_D	 150 2.4	 mW mW/°C
Thermal Resistance, Junctionto Ambient (Note.1)	$R_{\theta JA}$	833	°C/W
Junctionand Temperature Range	T_J	+150	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Device Marking

BC846AW=1A; BC846BW=1B; BC847AW=1E; BC847BW=1F
BC847CW=1G; BC848AW=1J; BC848BW;=1K; BC848CW=1L

1. FR-5=1.0 x 0.75 x 0.062 in.

Electrical Characteristics (T_A=25°C Unless Otherwise noted)

Characteristics		Symbol	Min	Typ	Max	Unit
Off Characteristics						
Collector-Emitter Breakdown Voltage (I_C=10mA)	BC846A Series BC847A Series BC848A Series	$V_{(BR)CEO}$	65 45 30	- - -	- - -	V
Collector-Emitter Breakdown Voltage (IC=10μA,VEB=0)	BC846A Series BC847A Series BC848A Series	$V_{(BR)CES}$	80 50 30	- - -	- - -	V
Collector-Base Breakdown Voltage (I_C=10μA)	BC846A Series BC847A Series BC848A Series	$V_{(BR)CBO}$	80 50 30	- - -	- - -	V
Emitter-Base Breakdown Voltage (I_E=1.0μA)	BC846A Series BC847A Series BC848A Series	$V_{(BR)EBO}$	6.0 6.0 5.0	- - -	- - -	V
Collector Cutoff Current (V_{CB}=30V) (V_{CB}=30V, T_A=150°C)		I_{CBO}	- -	- -	15 5.0	nA mA
On Characteristics						
DC Current Gain (I_C=10uA, V_{CE}=5.0V) (I_C=2.0mA, V_{CE}=5.0V)	BC846A, BC847A, BC848A BC846B, BC847B, BC848B BC847C, BC848C BC846A, BC847A, BC848A BC846B, BC847B, BC848B BC847C, BC848C,	h_{FE}	- - - 110 200 420	90 150 270 180 290 520	- - - 220 450 800	-
Collector-Emitter Saturation Voltage (IC=10mA, IB=0.5mA) (IC=100mA, IB=5.0mA)		$V_{CE(sat)}$	- -	- -	0.25 0.6	V
Base-Emitter Saturation Voltage (IC=10mA,IB=0.5mA) (IC=100mA,IB=5.0mA)		$V_{BE(sat)}$	- -	-0.7 -0.9	- -	V
Base-Emitter On Voltage (IC=2.0mA,VCE=5.0V) (IC=10mA,VCE=5.0V)		$V_{BE(on)}$	580 -	660 -	700 770	V
Small-signal Characteristics						
Current-Gain-Bandwidth Product (IC=10mA, VCE=5.0V, f=100MHz)		f_T	100	-	-	MHz
Output Capacitance (VCB=10V, f=1.0MHz)		C_{obo}	-	-	4.5	pF
Noise Figure (IC=0.2mA, VCE=5.0V, Rs=2.0kΩ, f=1.0kHz, BW=200Hz)	BC846A,B BC847A,B BC848A,B BC847C, BC848C	NF	- -	- -	10 4.0	dB

BC847 & BC848 Series

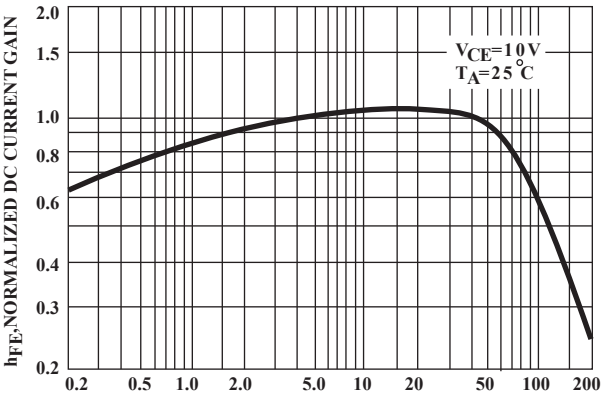
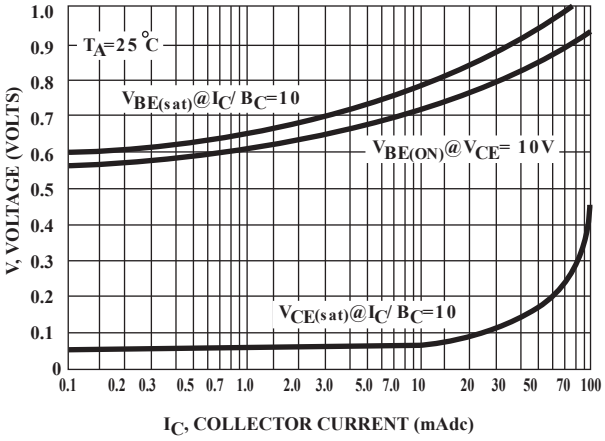


Figure1.Normalized DC Current Gain



Firure2. "Saturation" And "On" Voltage

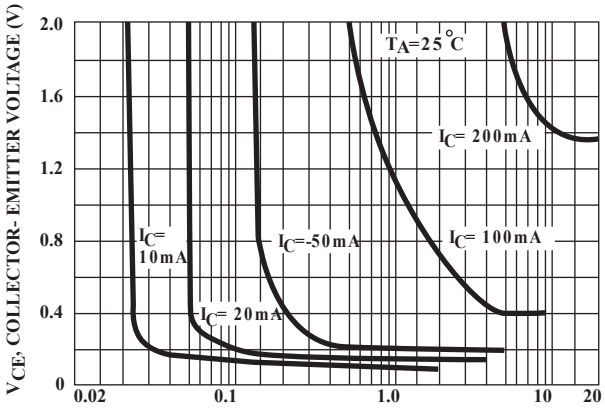


Figure 3. Collector Saturation Region

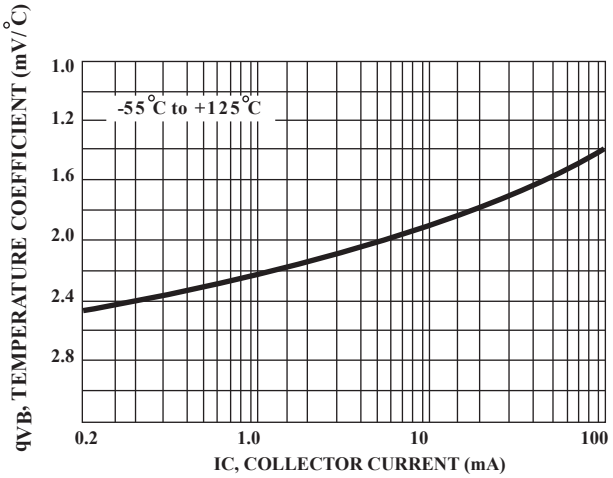


Figure 4. Base-Emitter Temperature Coefficient

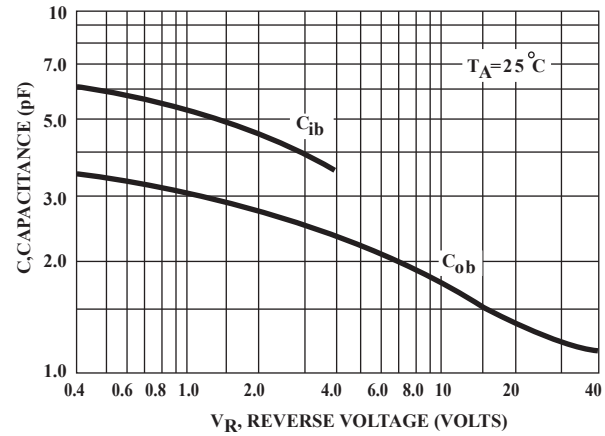


Figure 5. Capacitances

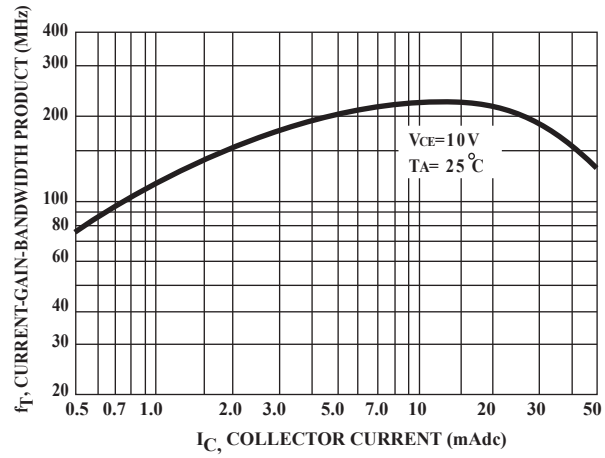


Figure 6. Current-Gain- Bandwidth Product

BC846 Series

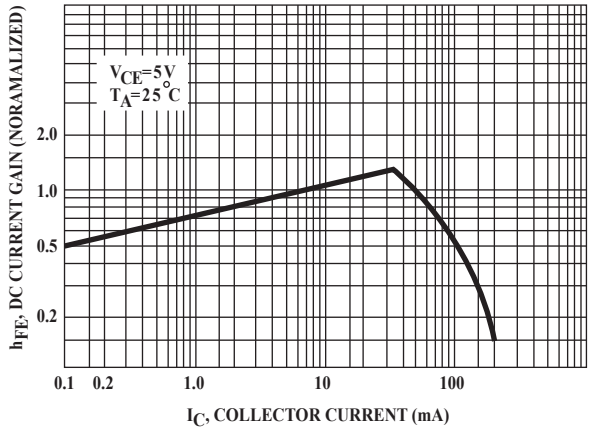


Figure 7.DC Current Gain

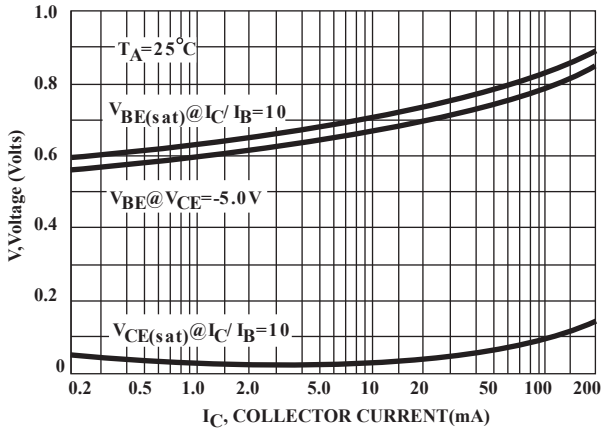


Figure 8. "ON" Voltage

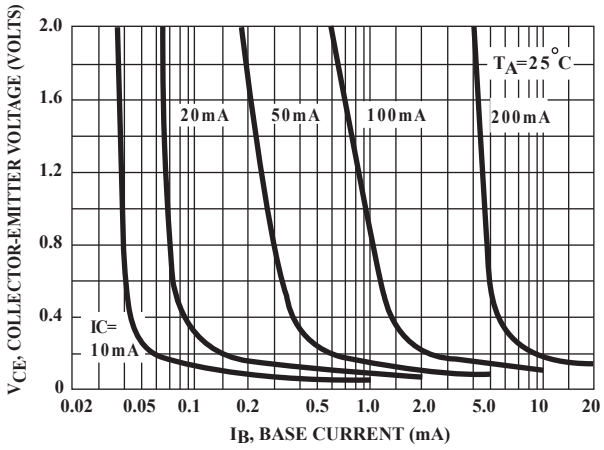


Figure 9. Collector Saturation Region

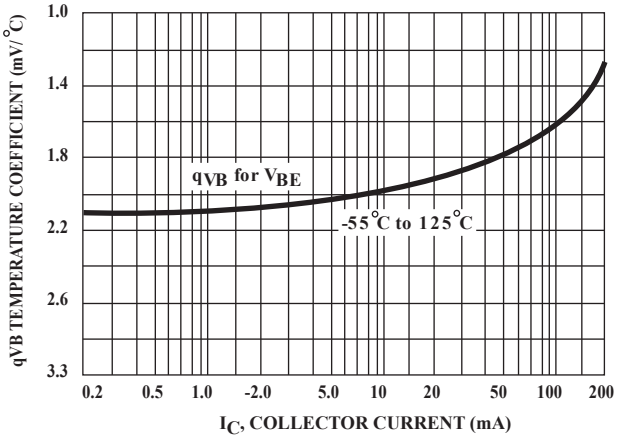


Figure 10. Base-Emitter Temperature Coefficient

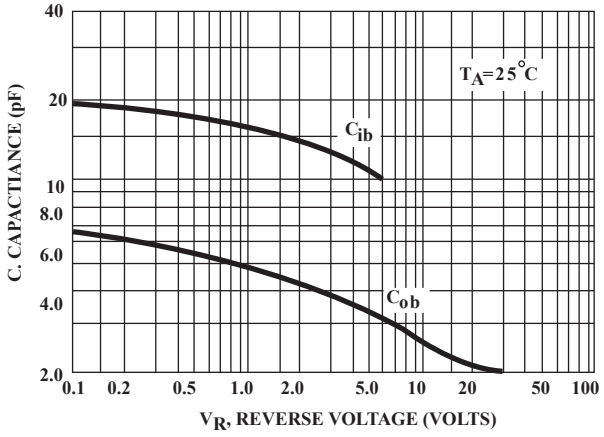


Figure 11. Capacitance

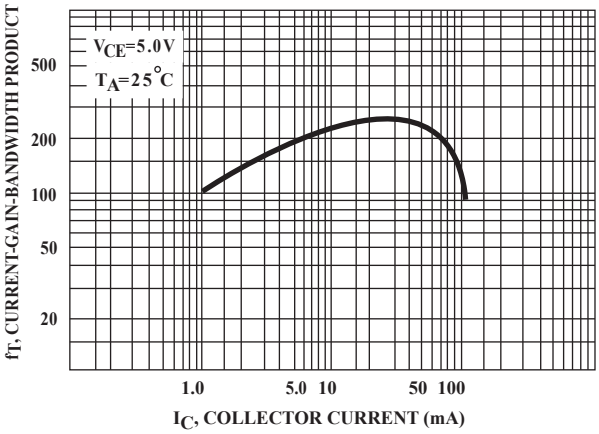


Figure 12.Current-Gain-Bandwidth Product