

FEATURES

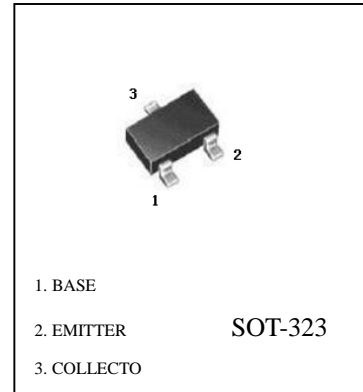
Ideally suited for automatic insertion

For Switching and AF Amplifier Applications

Marking

BC846AW	BC846BW	BC847AW	BC847BW
1A	1B	1E	1F

BC847CW	BC848AW	BC848BW	BC848CW
1G	1J	1K	1L

BC846AW/BW
BC847AW/BW/CW (NPN)
BC848AW/BW/CW

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BC846	V_{CBO}	80
	BC847	V_{CBO}	50
	BC848	V_{CBO}	30
Collector-Emitter Voltage	BC846	V_{CEO}	65
	BC847	V_{CEO}	45
	BC848	V_{CEO}	30
Emitter-Base Voltage	BC846	V_{EBO}	6
	BC847	V_{EBO}	6
	BC848	V_{EBO}	5
Collector Current -Continuous	I_C	100	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

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

ELECTRICAL CHARACTERISTICS (Tamb=25 °C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Ttp.	Max	Unit
Collector-base breakdown voltage						
BC846AW	VCBO	IC= 10 μ A, IE=0	80			V
BC847AW			50			
BC848AW			30			
Collector-emitter breakdown voltage						
BC846AW	VCEO	IC= 10mA, IB=0	65			V
BC847AW			45			
BC848AW			30			
Emitter-base breakdown voltage						
BC846AW	VEBO	IE= 1 μ A, IC=0	6			V
BC847AW			6			
BC848AW			5			
Collector Cutoff Current	ICBO	VCB=30V			15	nA
DC current gain						
BC846AW,BC846BW	hFE	VCE= 5V, IC= 10 μ A		90		
BC847AW,BC847BW,BC847CW				150		
BC848AW,BC848BW,BC848CW			270			
			110		220	
		VCE= 5V, IC= 2mA	200		450	
			420		800	
Collector-emitter saturation voltage	VCE(sat)	IC=10mA, IB=0. 5mA IC=100mA, IB= 5mA			0.25 0.6	V
Base-emitter saturation voltage	VBE(sat)	IC=10mA, IB=0. 5mA IC=100mA, IB= 5mA		0.7 0.9		V
Base-emitter voltage	VBE(on)	VCE= 5V, IC= 2mA VCE= 5V, IC= 10mA	580	660	700 770	mV
Transition frequency	f _T	VCE= 5 V, IC= 10mA f=100MHz	100			MHz
Collector output capacitance	Cob	VCB=10V,f=1MHz			4.5	pF
Noise figure						
BC846AW,BC846BW	NF	VCE=5V,Ic=0.2mA, f=1KHz,RS=2K BW=200Hz			10	dB
BC847AW,BC847BW,BC847CW					4	
BC848AW,BC848BW,BC848CW						

BC846AW/BW
BC847AW/BW/CW Typical Characteristics
BC848AW/BW/CW

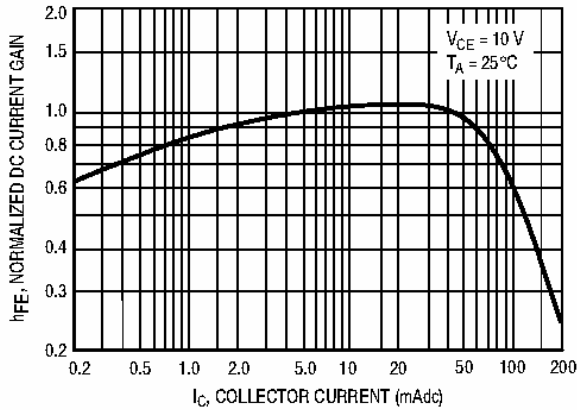


Figure 1. Normalized DC Current Gain

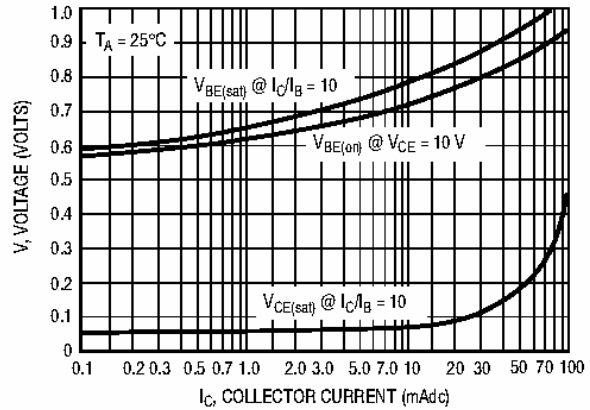


Figure 2. "Saturation" and "On" Voltages

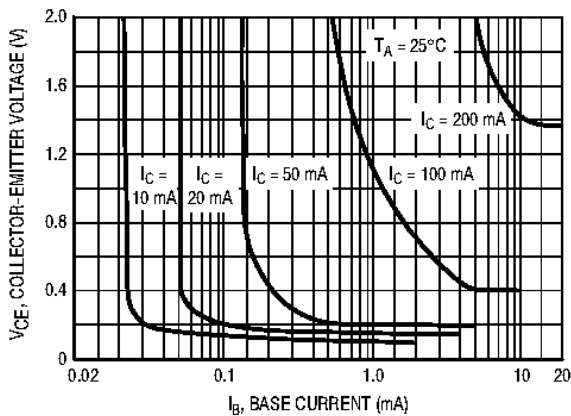


Figure 3. Collector Saturation Region

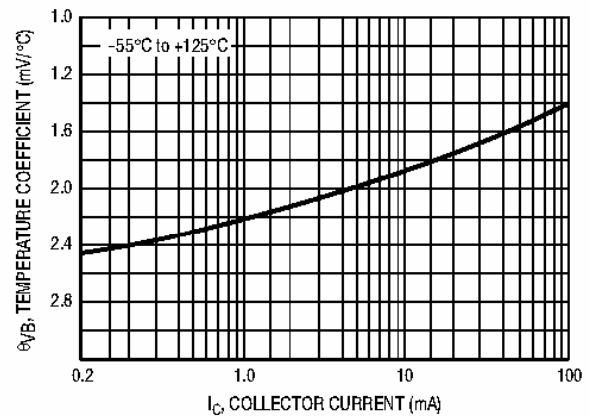


Figure 4. Base-Emitter Temperature Coefficient

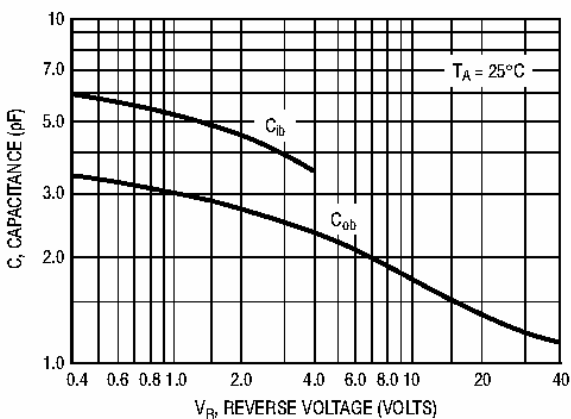


Figure 5. Capacitances

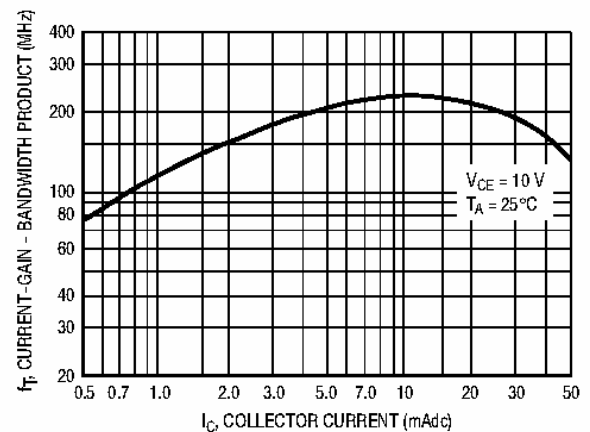


Figure 6. Current-Gain - Bandwidth Product

BC846AW/BW
BC847AW/BW/CW Typical Characteristics
BC848AW/BW/CW

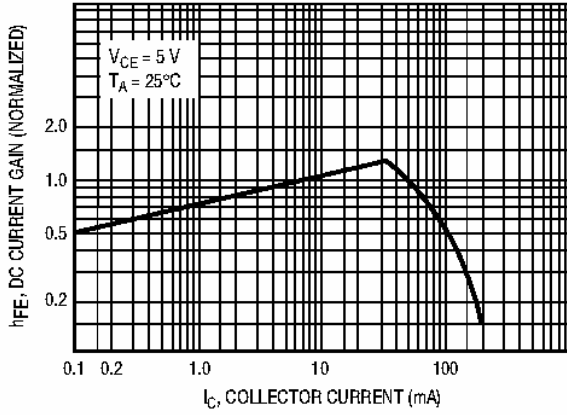


Figure 7. DC Current Gain

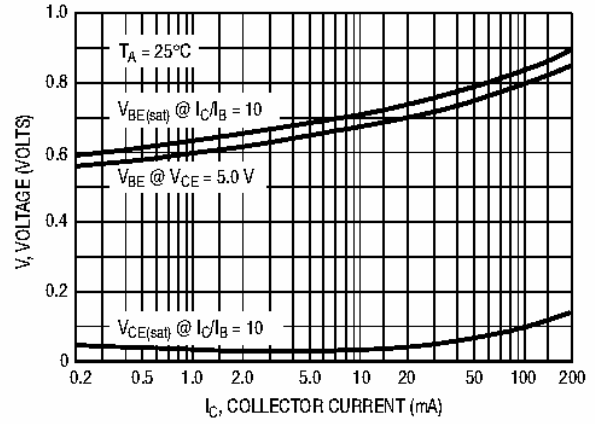


Figure 8. "On" Voltage

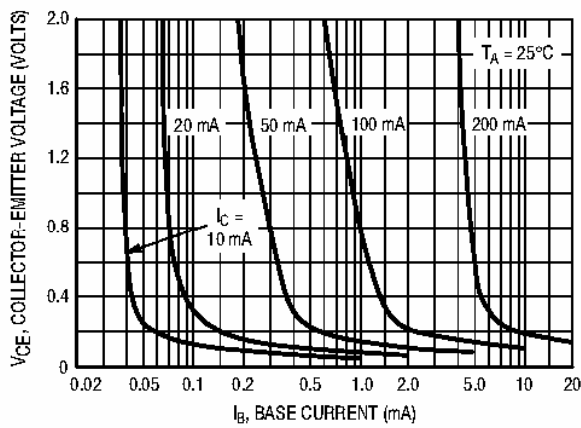


Figure 9. Collector Saturation Region

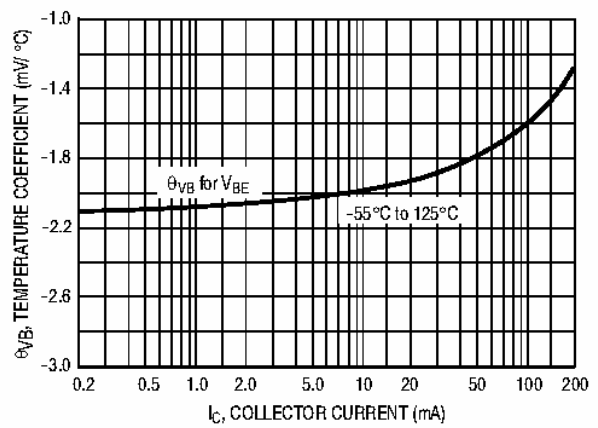


Figure 10. Base-Emitter Temperature Coefficient

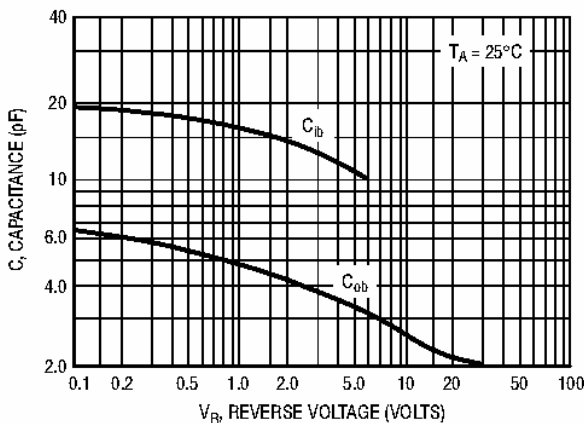


Figure 11. Capacitance

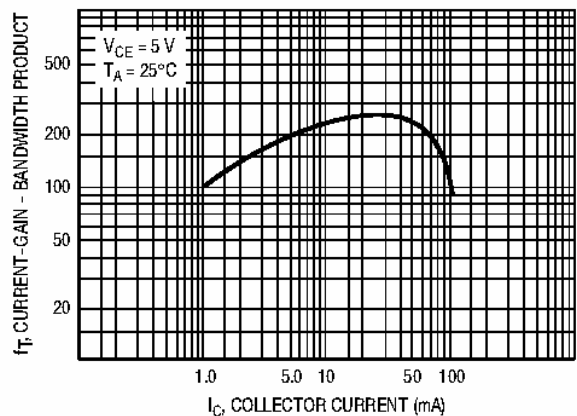


Figure 12. Current-Gain - Bandwidth Product