BC846, BC847, BC848

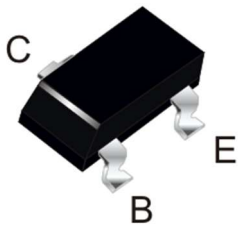
NPN Plastic-Encapsulate Transistor

Features

- Low profile package
- Ideally suited for automatic insertion
- Power Dissipation of 200mW
- High Stability and High Reliability
- Complementary to BC856, BC857, BC858

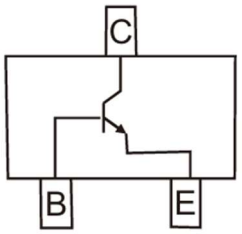
Appearance & Symbol

SOT-23



Mechanical Data

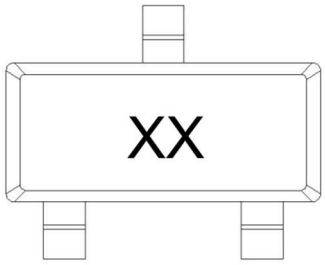
- Package: SOT-23
- Mounting Position: Any
- Epoxy meets UL-94 V-0 flammability rating
- Terminals: Plated solderable per MIL-STD-750, method 2026
- Tape Reel: 3000pcs



Application

- Amplifying signal
- Electronic switch
- Oscillating circuit
- Variable resistance

Marking information



XX= Marking Code

BC846A=1A; BC846B=1B;

BC847A=1E; BC847B=1F; BC847C=1G;

BC848A=1J; BC848B=1K; BC848C=1L;

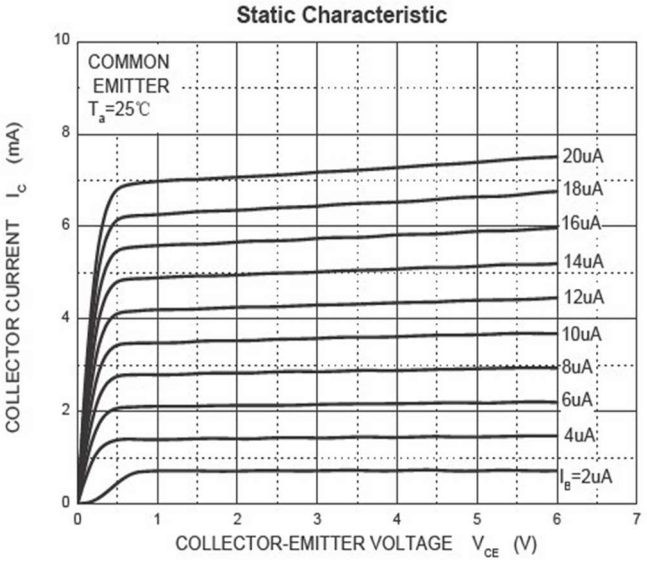
Absolute Maximum Ratings (T_A = 25°C unless otherwise specified)

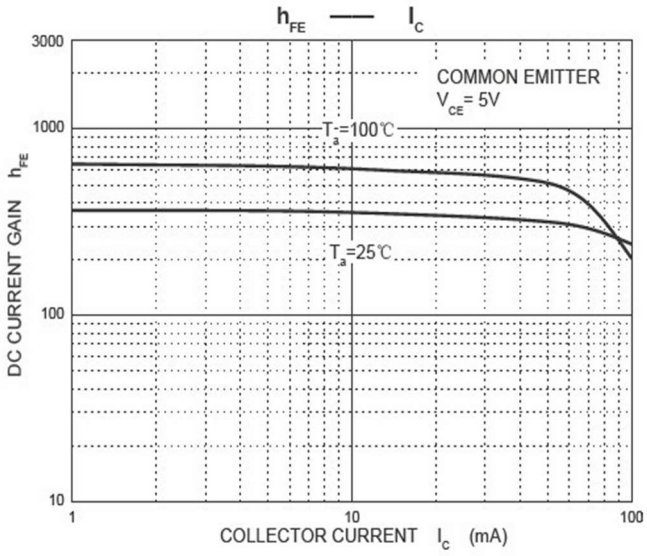
Parameter	Symbol	BC846	BC847	BC848	Unit
Collector-Base Voltage	V_{CBO}	80	50	30	V
Collector-Emitter Voltage	V_{CEO}	65	45	30	V
Emitter-Base Voltage	V_{EBO}	6			V
Collector Current - Continuous	I_C	100			mA
Power Dissipation	P_D	200			mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625			℃/W
Junction Temperature	T_J	-55 to +150			℃
Junction and Storage Temperature	T_{STG}	-55 to +150			℃

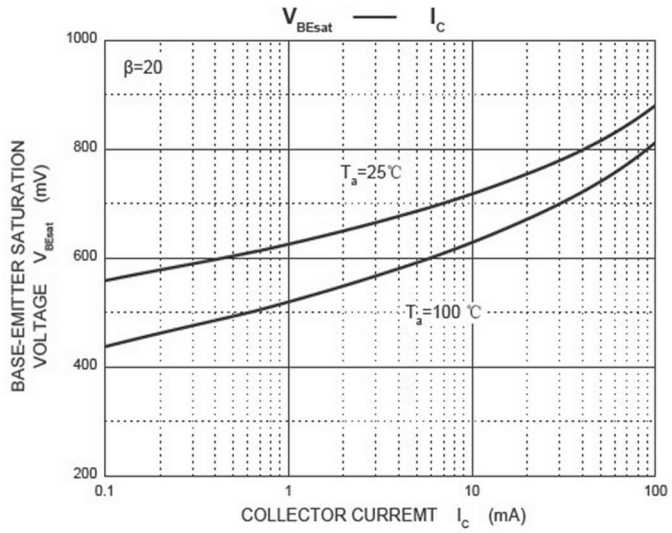
Electrical Characteristics (T_A = 25°C unless otherwise specified)

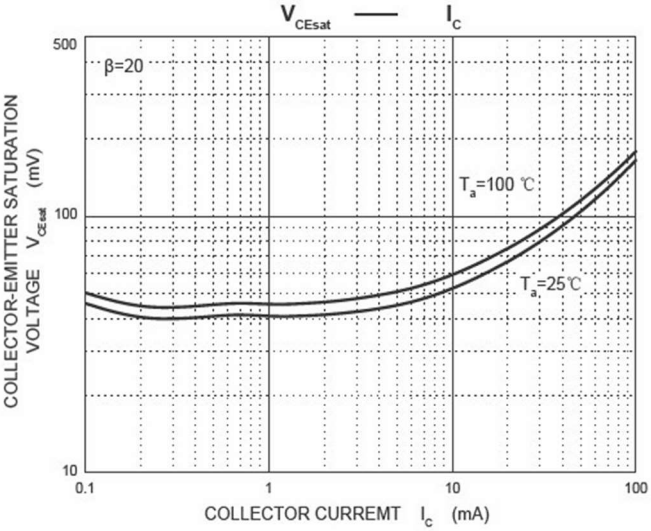
Parameter		Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	BC846	$V_{(BR)CBO}$	I_C=10uA, I_E=0	80		V
	BC847			50		
	BC848			30		
Collector-emitter breakdown voltage	BC846	$V_{(BR)CEO}$	I_C=10mA, I_B=0	65		V
	BC847			45		
	BC848			30		
Emitter-base breakdown voltage		$V_{(BR)EBO}$	I_E=10uA, I_C=0	6		V
Collector cut-off current	BC846	I_{CBO}	V_{CE}=70V, I_E=0		100	nA
	BC847		V_{CE}=50V, I_E=0			
	BC848		V_{CE}=30V, I_E=0			
Emitter cut-off current		I_{EBO}	V_{EB}=5V, I_C=0		100	nA
DC current gain	BC846A,BC847A,BC848A	h_{FE}	V_{CE}=5V, I_C=2mA	110	220	
	BC846B,BC847B,BC848B			200	450	
	BC847C,BC848C			420	800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=100mA, I_B=5mA		0.5	V
Base -emitter saturation voltage		$V_{BE(sat)}$	I_C=100mA, I_B=5mA		1.1	V
Transition frequency		f_T	V_{CE}=5V, I_C=10mA, f=100MHz	100		MHz
Collector output capacitance		C_{ob}	V_{CB}=10V, f=1MHz		4.5	pF

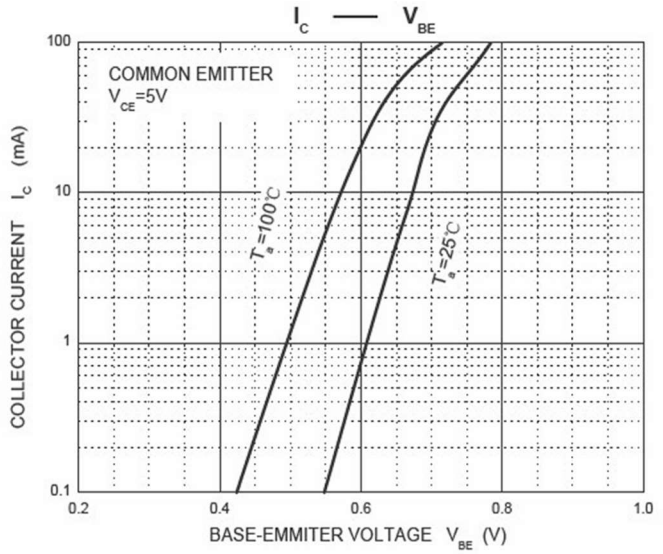
Typical Characteristics

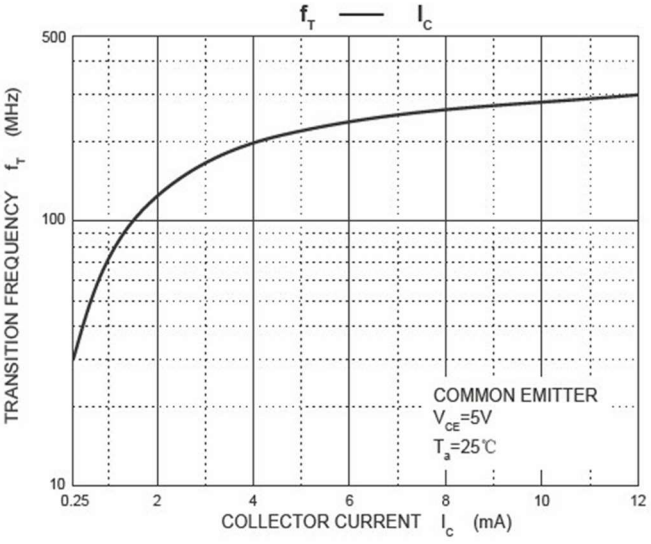




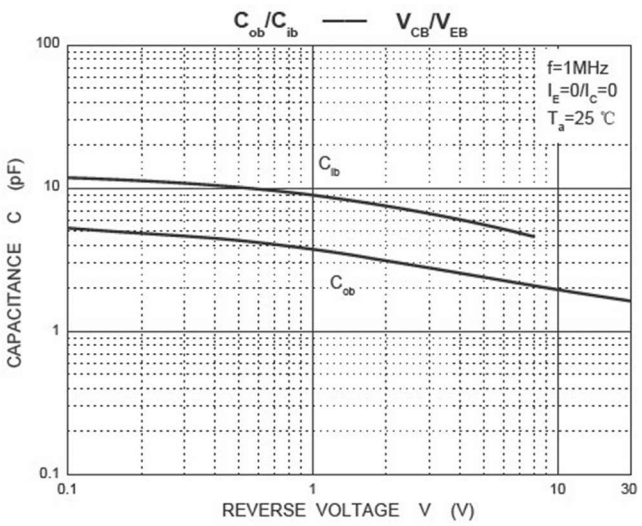


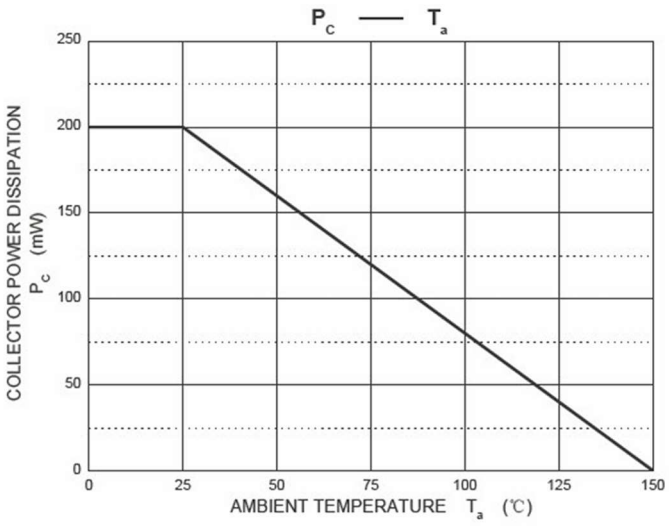




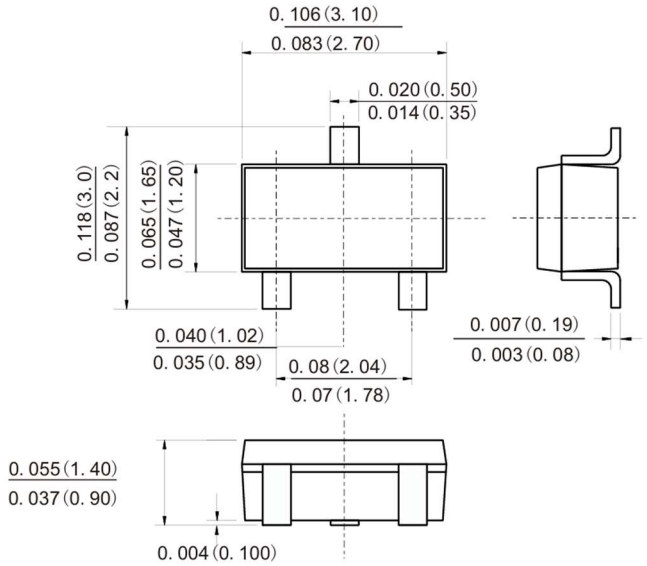


Typical Characteristics



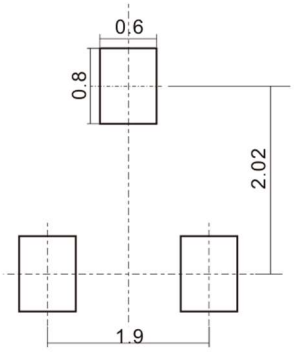


Package Outline Dimensions (Units: mm) SOT-23



Dimensions in inches and (millimetrers)

Suggested Pad layout



Dimensions in millimetrers