BC846/BC847/BC848
SOT-23 Plastic-Encapsulate Transistors(NPN)

General description
SOT-23 Plastic-Encapsulate Transistors(NPN)

FEATURES
- Complementary to BC856/BC857/BC858
- Power Dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

DEVICE MARKING CODE:

BC846A=1A	BC846B=1B	
BC847A=1E	BC847B=1F	BC847C=1G
BC848A=1J	BC848B=1K	BC848C=1L

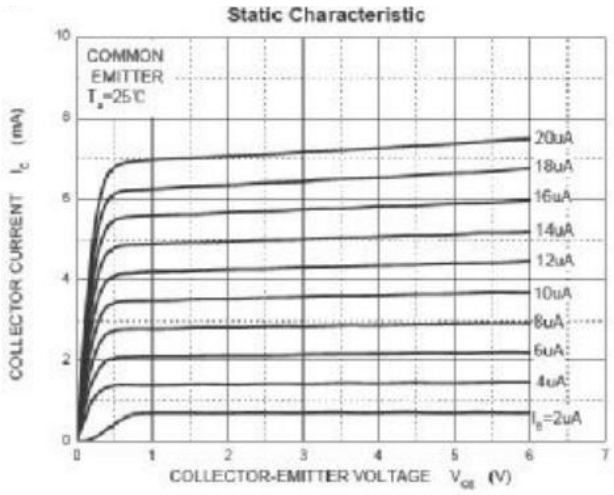
Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

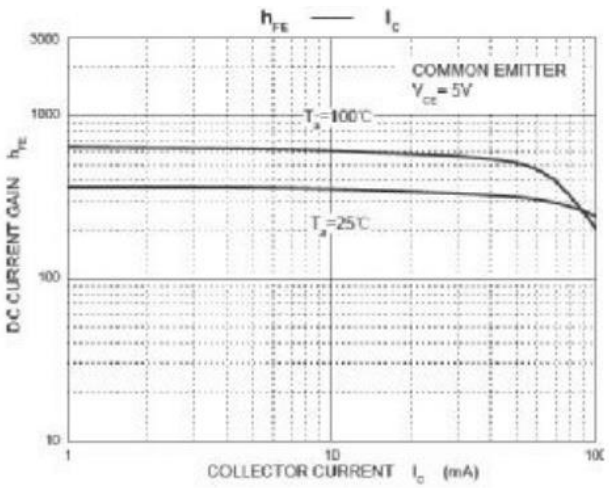
Parameters	Symbol		Value	Unit
Collector-Base Voltage	V_{CBO}	BC846 BC847 BC848	80 50 30	V
Collector-Emitter Voltage	V_{CEO}	BC846 BC847 BC848	65 45 30	V
Emitter -Base Voltage	V_{EBO}		6	V
Collector Current-Continuous	I_C		100	mA
Collector Power Dissipation	P_C		200	mW
Junction Temperature	T_j		150	℃
Storage Temperature	Tstg		-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$		625	℃/W

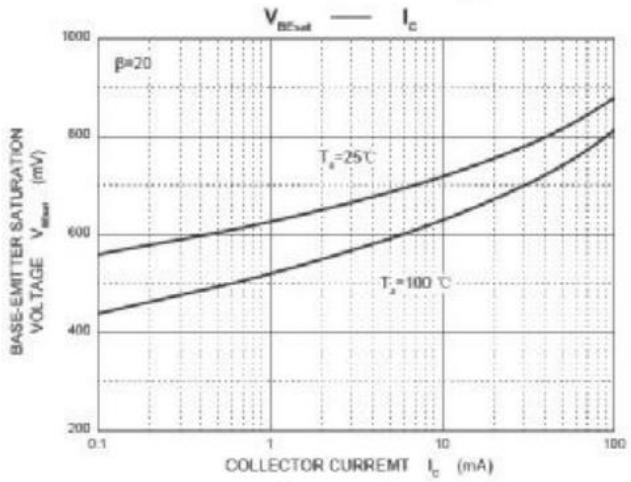
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

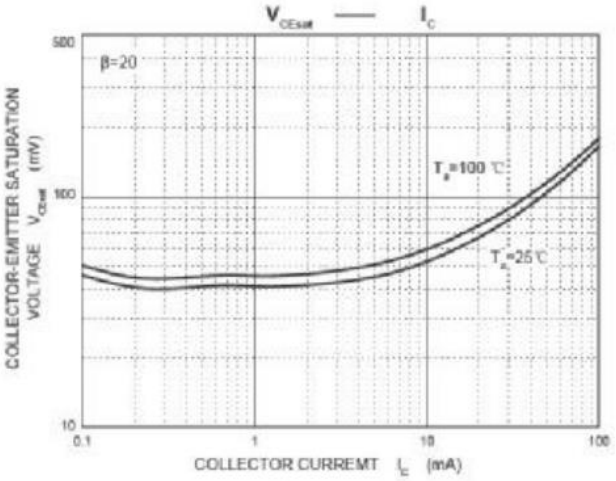
Parameter	Symbols	Test Condition		Limits		Unit
				Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10uA, I_E=0	BC846 BC847 BC848	80 50 30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	BC846 BC847 BC848	65 45 30		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10uA, I_C=0		6		V
Collector cut-off current	I_{CBO}	V_{CB}=70V, I_E=0 V_{CB}=50V, I_E=0 V_{CB}=30V, I_E=0	BC846 BC847 BC848		100	nA
Collector cut-off current	I_{CEO}	V_{CE}=60V, I_B=0 V_{CE}=45V, I_B=0 V_{CE}=30V, I_B=0	BC846 BC847 BC848		100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			100	nA
DC current gain	h_{FE}	VCE=5V, IC=2mA	BC846A;BC847A;BC848A BC846B;BC847B;BC848B BC847C;BC848C	110 200 420	220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B=5mA			0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B=5mA			1.10	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

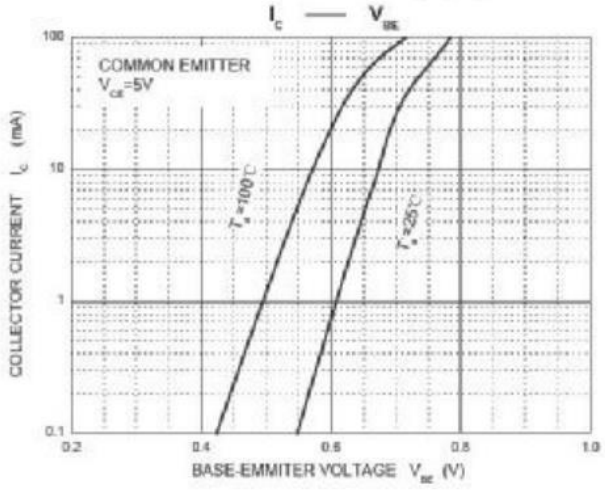
RATING AND CHARACTERISTIC CURVES

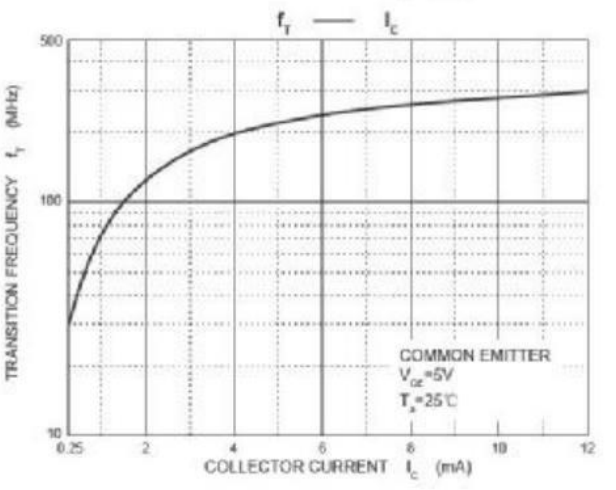




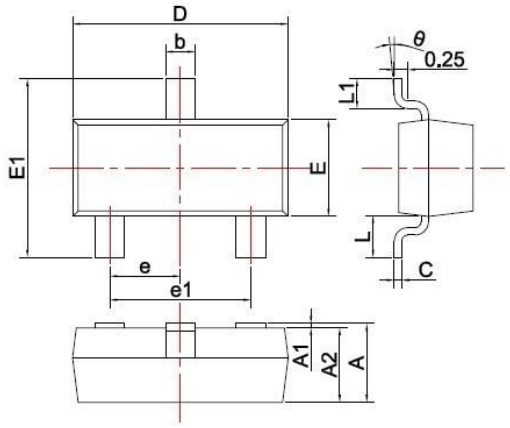








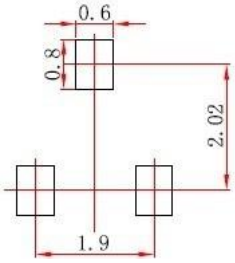
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Precautions: PCB Design
Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:
1.Controlling dimension:In millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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