

SOT-23 Plastic-Encapsulate Transistor (NPN)

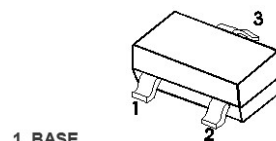
Feature

- Complementary to BC856/BC857/BC858
- Power Dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications

Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

Marking:

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

Maximum Ratings & Thermal Characteristics (T_A=25°C unless otherwise noted)

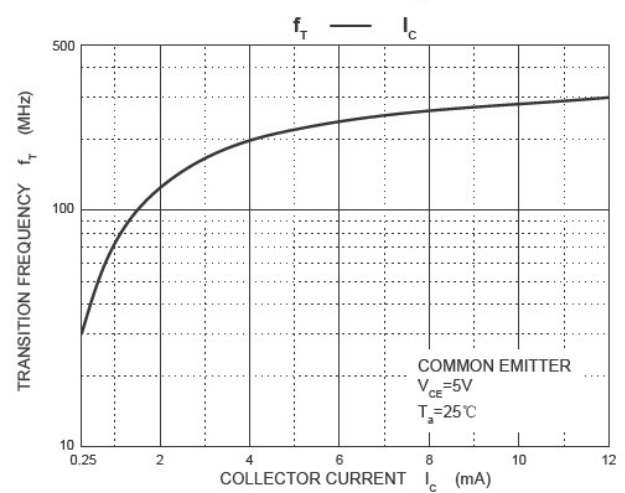
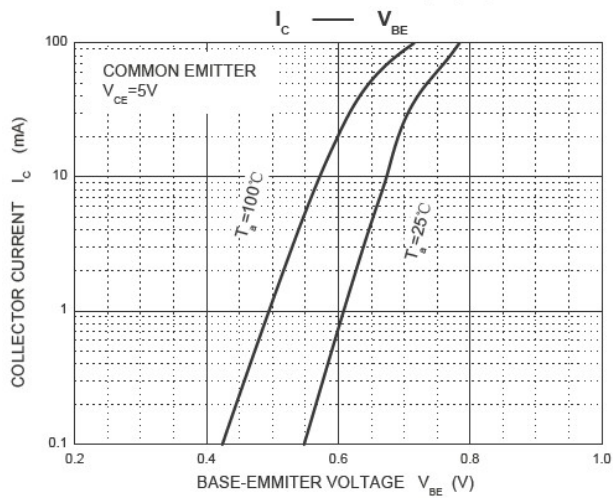
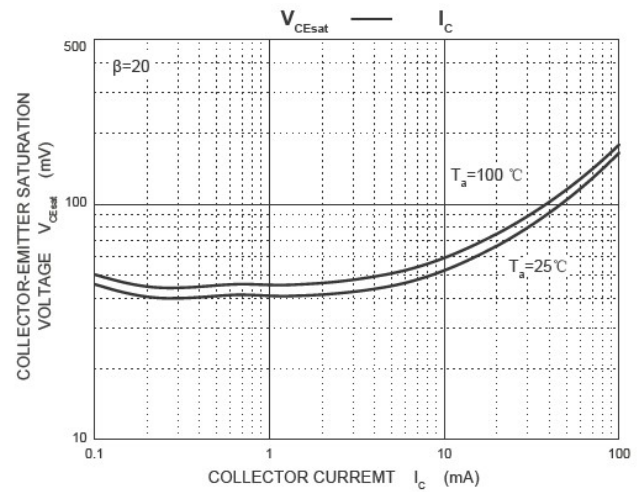
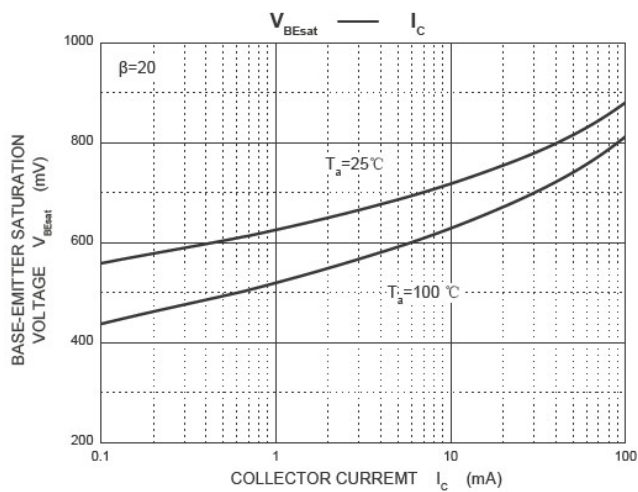
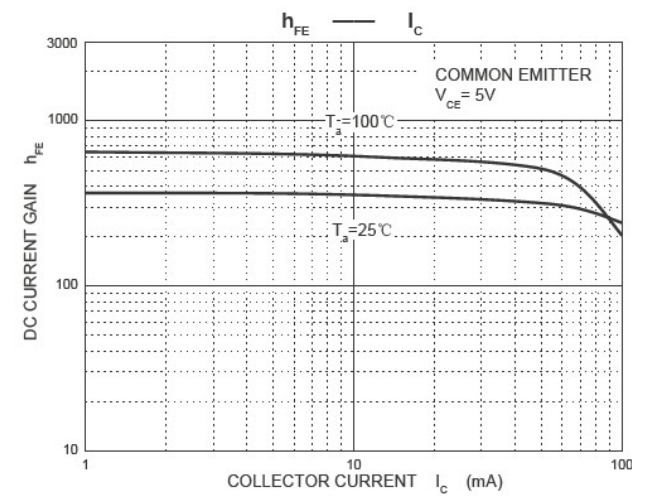
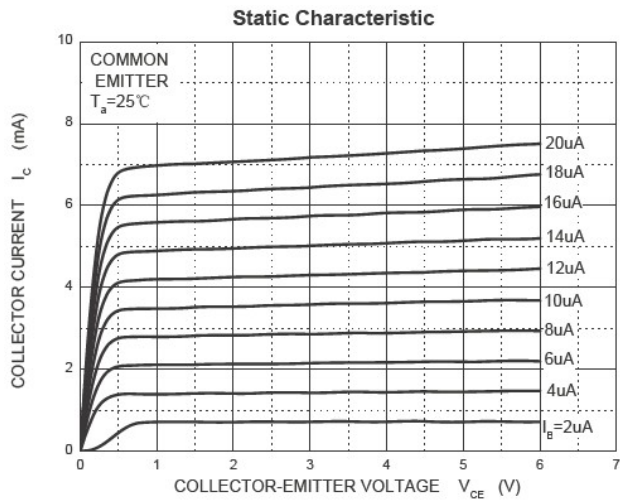
Parameter	Symbol		Value	Unit
Collector-Base Voltage	V _{CB0}	BC846 BC847 BC848	80 50 30	V
Collector-Emitter Voltage	V _{CEO}	BC846 BC847 BC848	65 45 30	V
Emitter -Base Voltage	V _{EBO}		6	V
Collector Current-Continuous	I _C		100	mA
Collector Power Dissipation	P _C		200	mW
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}		625	°C/W

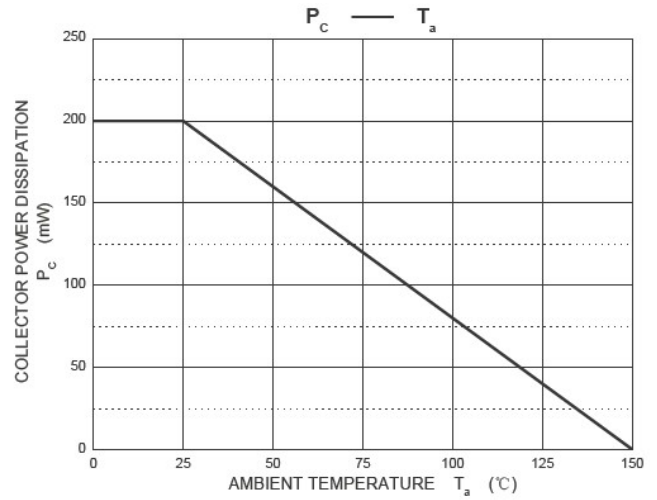
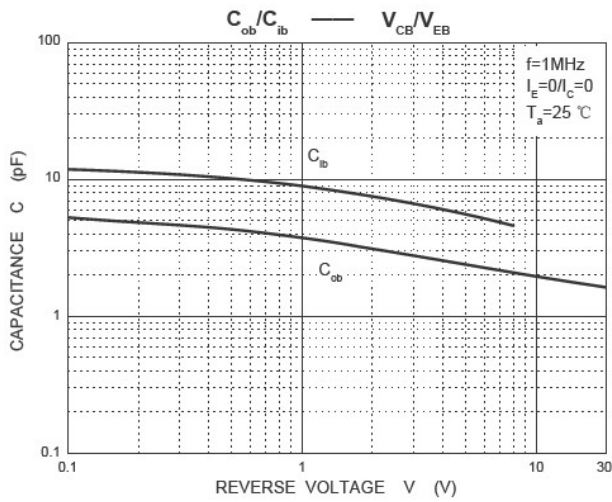
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Limit		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}	V _{CE} =5V, I _C =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

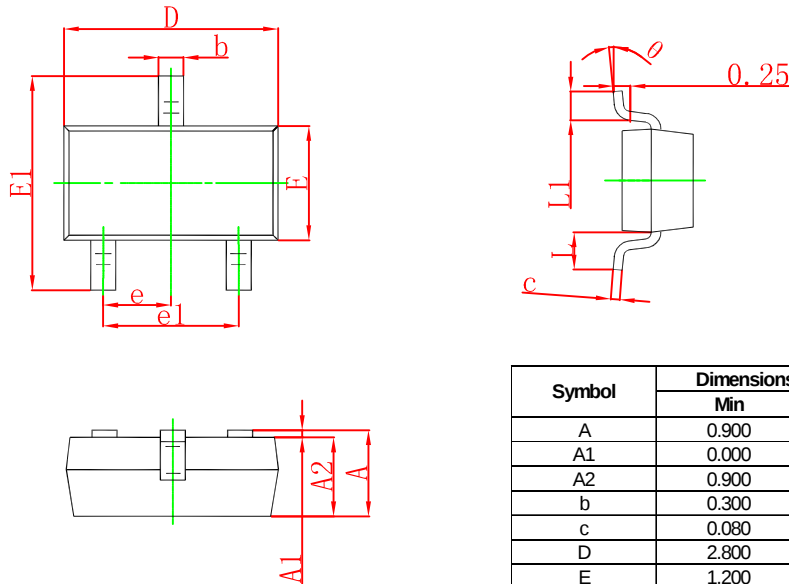


Typical Characteristics



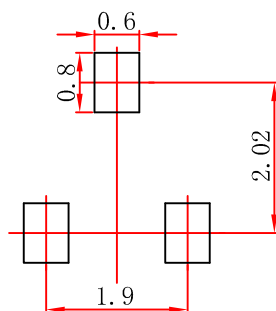


SOT-23 Package Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Notes:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.