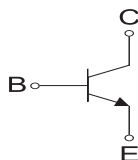
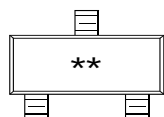


SOT-23 Plastic-Encapsulate Transistors**BC846/BC847/BC848**

TRANSISTOR (NPN)

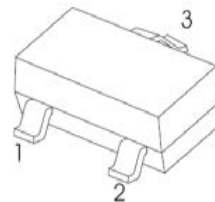
FEATURES

- Ideally suited for automatic insertion
- For switching and AF amplifier applicationst

MARKING**Equivalent Circuit**

HFE	110 - 220	200 - 450	420 - 800
BC846	1A	1B	
BC847	1E	1F	1G
BC848	1J	1K	1L

SOT - 23



1. BASE
2. EMITTER
3. COLLECTOR

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

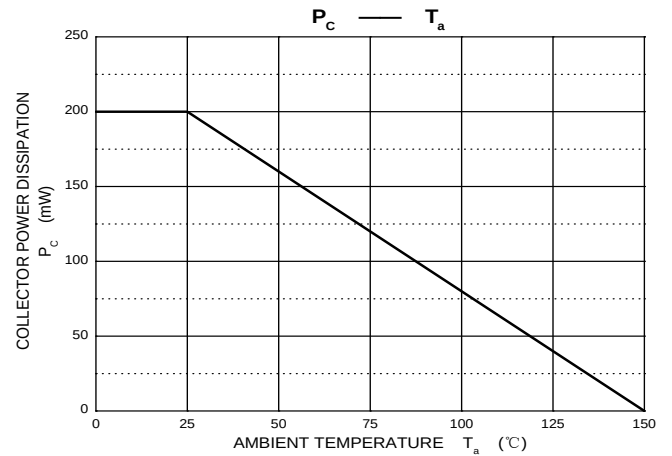
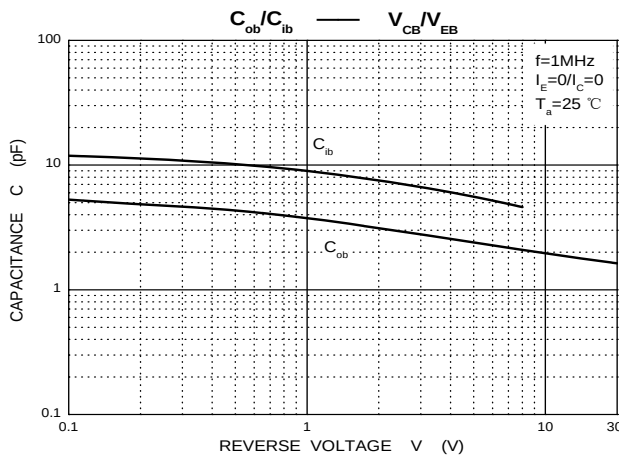
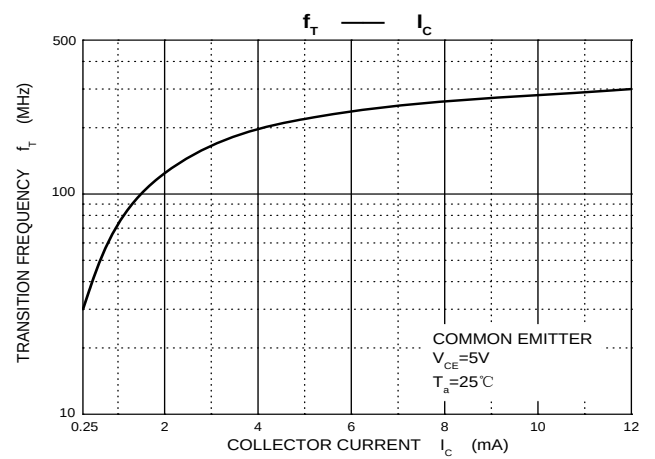
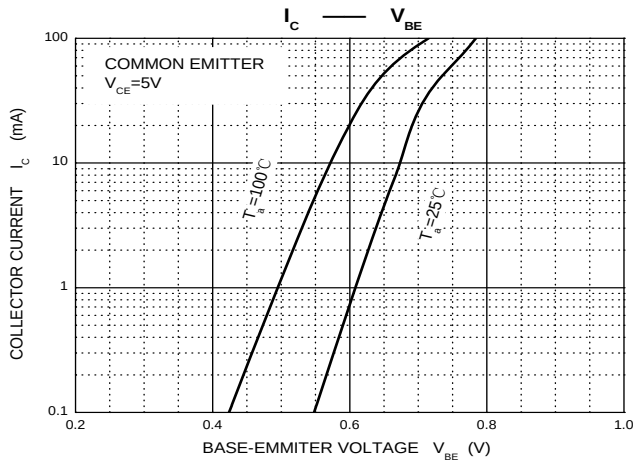
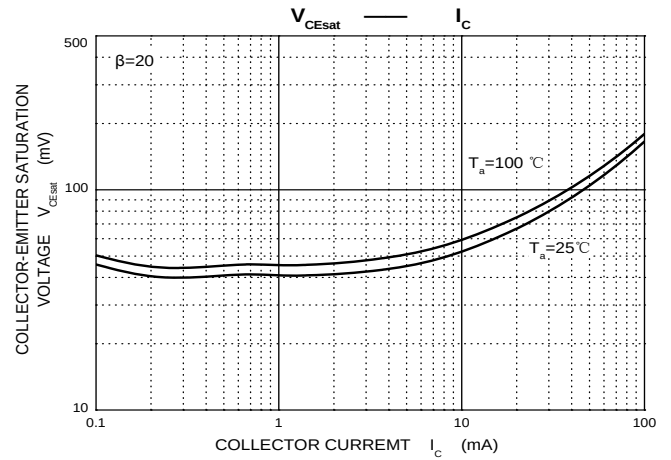
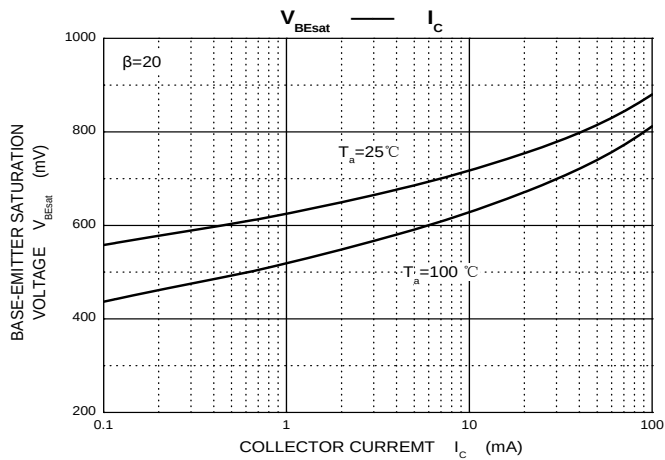
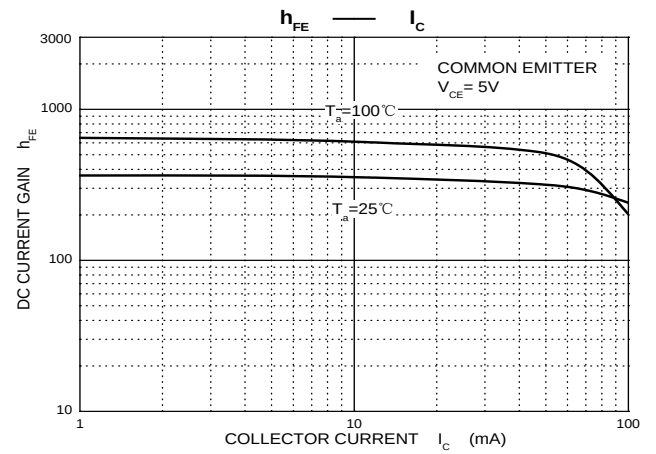
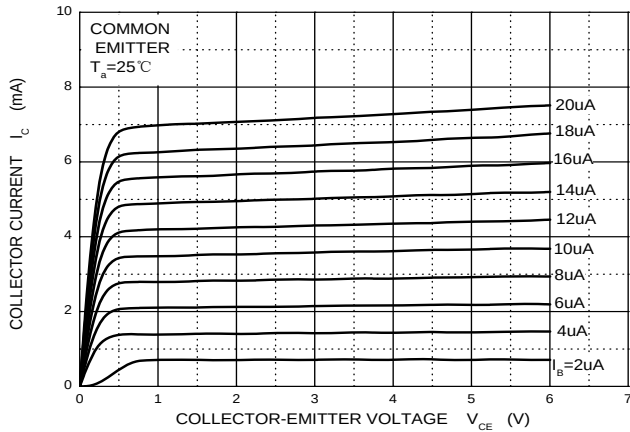
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BC846 80 BC847 50 BC848 30	V
V_{CEO}	Collector-Emitter Voltage	BC846 65 BC847 45 BC848 30	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current –Continuous	0.1	A
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

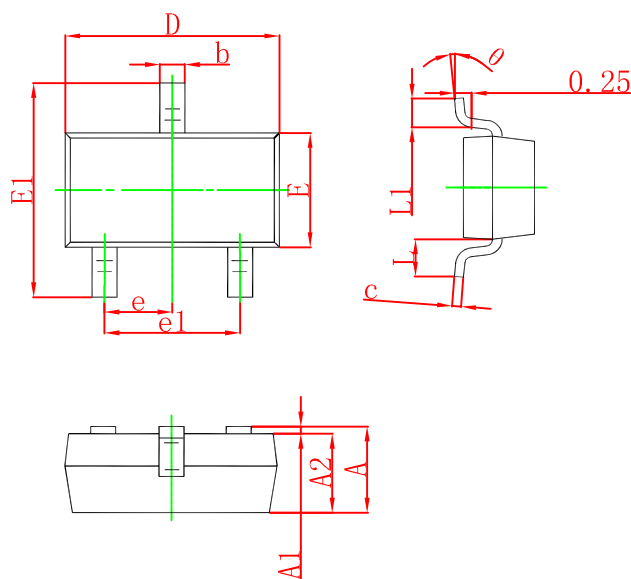
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846 BC847 BC848	V_{CBO} $I_C=10\mu\text{A}, I_E=0$	80 50 30			V
Collector-emitter breakdown voltage	BC846 BC847 BC848	V_{CEO} $I_C=10\text{mA}, I_B=0$	65 45 30			V
Emitter-base breakdown voltage		V_{EBO} $I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	BC846 BC847 BC848	I_{CBO} $V_{CB}=70\text{V}, I_E=0$ $V_{CB}=50\text{V}, I_E=0$ $V_{CB}=30\text{V}, I_E=0$			0.1	μA
Emitter cut-off current		I_{EBO} $V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	BC846A,847A,848A BC846B,847B,848B BC847C,BC848C	h_{FE} $V_{CE}=5\text{V}, I_C=2\text{mA}$	110 200 420		220 450 800	
Collector-emitter saturation voltage		$V_{CE(sat)}$ $I_C=100\text{mA}, I_B=5\text{mA}$			0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$ $I_C=100\text{mA}, I_B=5\text{mA}$			1.1	V
Transition frequency		f_T $V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	100			MHz
Collector output capacitance		C_{ob} $V_{CB}=10\text{V}, f=1\text{MHz}$			4.5	pF

Typical Characteristics

Static Characteristic

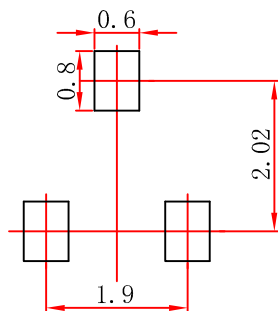


Package Outline Dimensions (SOT-23)



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°

Suggested Pad Layout (SOT-23)



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