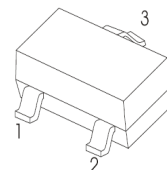


BC846 – BC847 – BC848

SOT-23 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- ✧ Ideally suited for automatic insertion
- ✧ For switching and AF amplifier applications

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	BC846	80
		BC847	50
		BC848	30
V _{CEO}	Collector-Emitter Voltage	BC846	65
		BC847	45
		BC848	30
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current –Continuous	0.1	A
P _C	Collector Power Dissipation	200	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	625	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

DEVICE MARKING

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

BC846 – BC847 – BC848

SOT-23 Plastic-Encapsulate Transistors

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			V
			50			
			30			
Collector-emitter breakdown voltage	BC846 BC847 BC848	V_{CEO} $I_C = 10\text{mA}, I_B = 0$	65			V
			45			
			30			
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		220	
			200		450	
			420		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

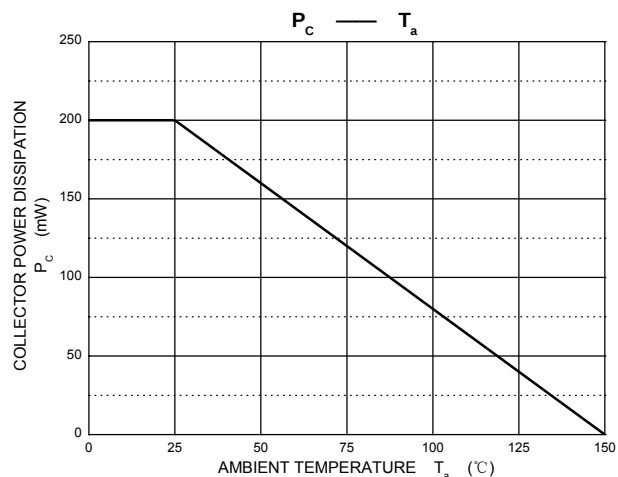
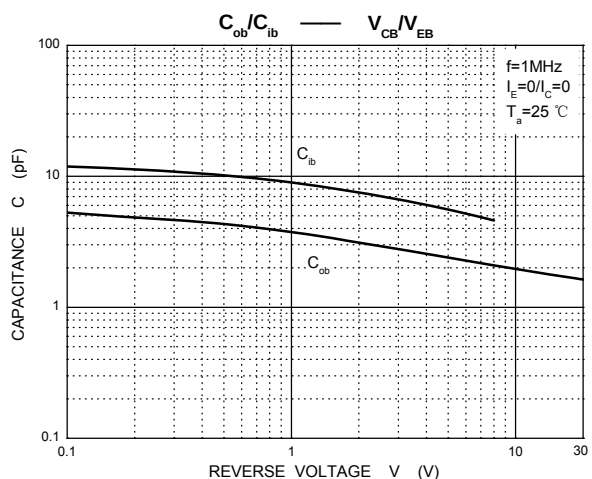
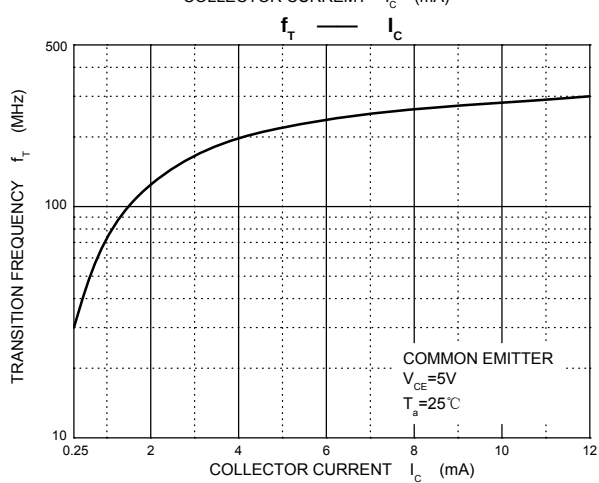
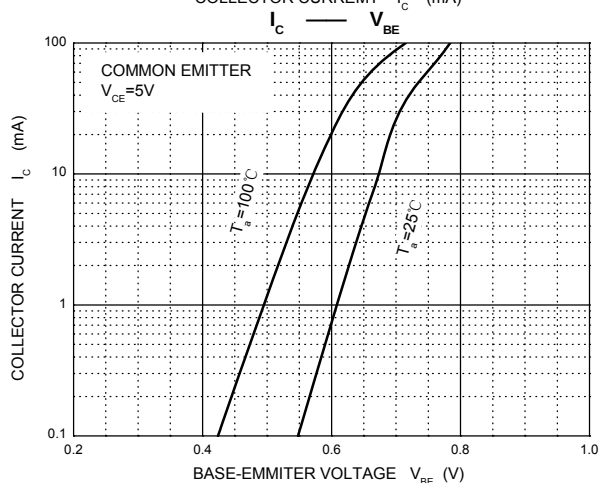
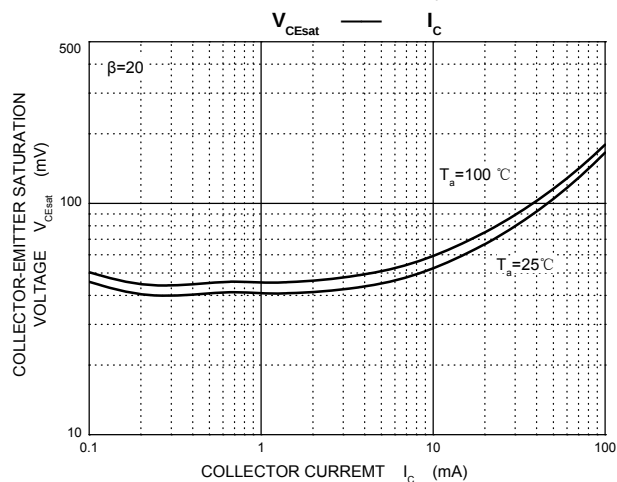
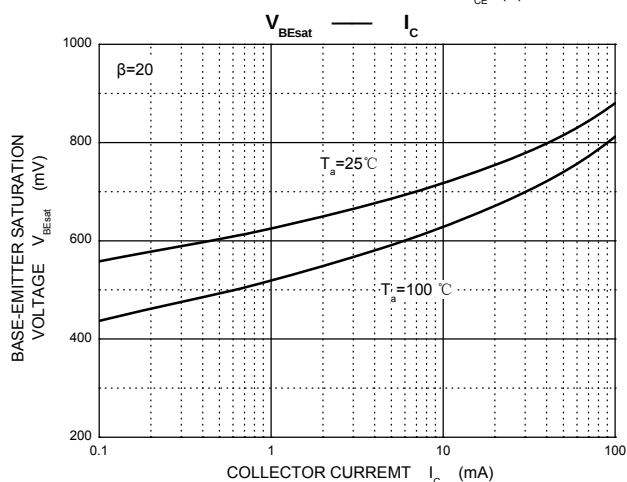
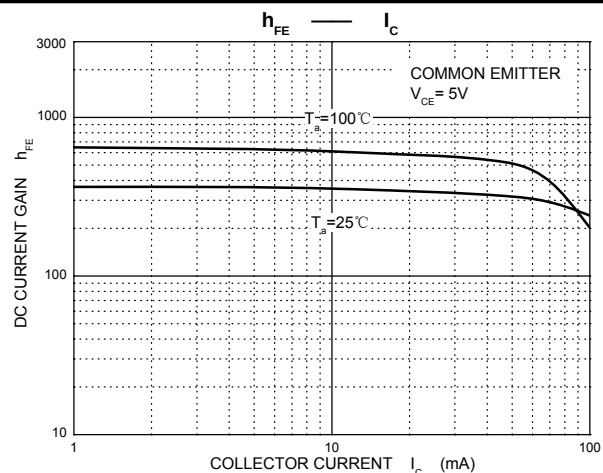
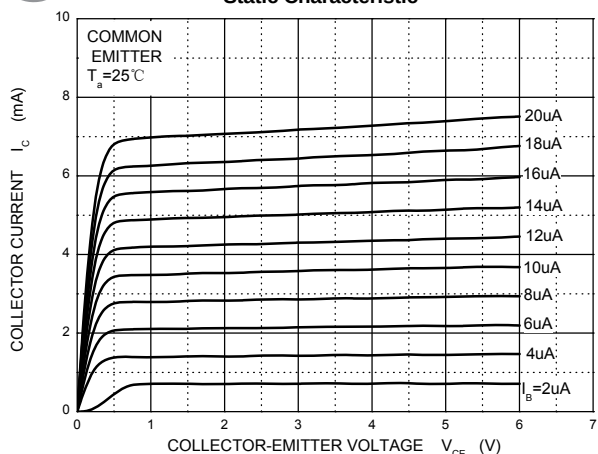


RoHS
COMPLIANCE

Static Characteristic

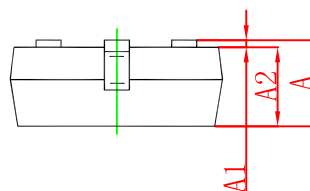
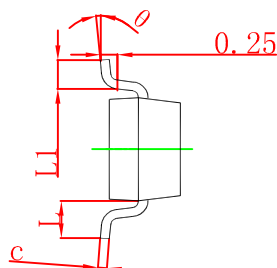
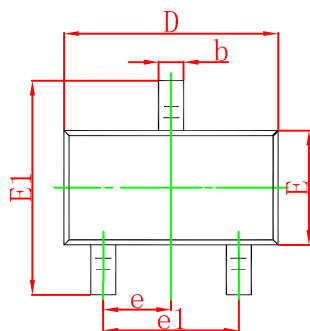
BC846 – BC847 – BC848

SOT-23 Plastic-Encapsulate Transistors



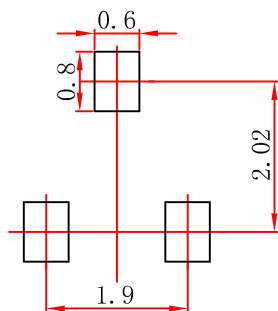
BC846 – BC847 – BC848

SOT-23 Plastic-Encapsulate Transistors



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 Package Outline Dimensions



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