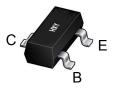


#### **FEATURES**

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

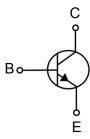


#### **SOT-23**

# **Package Marking and Ordering Information**

Product ID	Pack	Marking	Qty(PCS)
BC846/BC847 /BC848	SOT-23	1*	3000

\* BC846A= **A**; BC846B= **B**; BC846C= **C**; BC847A= **E**; BC847B= **F**; BC847C= **G**; BC848A= **J**; BC848B= **K**; BC848C= **L**;



### MAXIMUM RATINGS (Ta=25 unless otherwise noted)

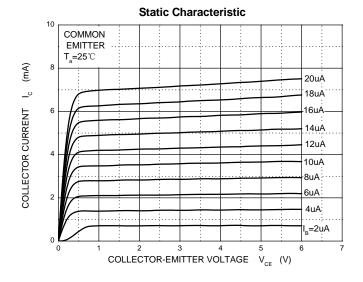
Symbol	Parameter		Limit	Unit
	Collector-Base Voltage	BC846	80	
V <sub>CBO</sub>		BC847	50	V
		BC848	30	
	Collector-Emitter Voltage	BC846	65	
V <sub>CEO</sub>		BC847	45	V
		BC848	30	
V <sub>EBO</sub>	Emitter-Base Voltage		6	V
I <sub>c</sub>	Collector Current		100	mA
P <sub>c</sub>	Collector Power Dissipation		200	mW
R <sub>OJA</sub>	Thermal Resistance From Junction To Ambient		625	°C/W
T <sub>j</sub>	Junction Temperature		150	℃
T <sub>stg</sub>	Storage Temperature		-55∼ <b>+</b> 150	℃

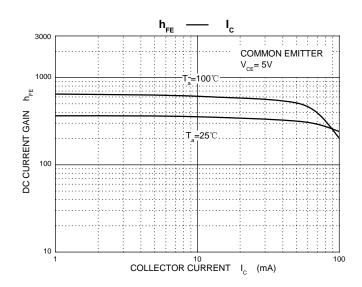


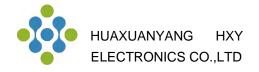
#### ELECTRICAL CHARACTERISTICS (Ta=25 unless otherwise specified)

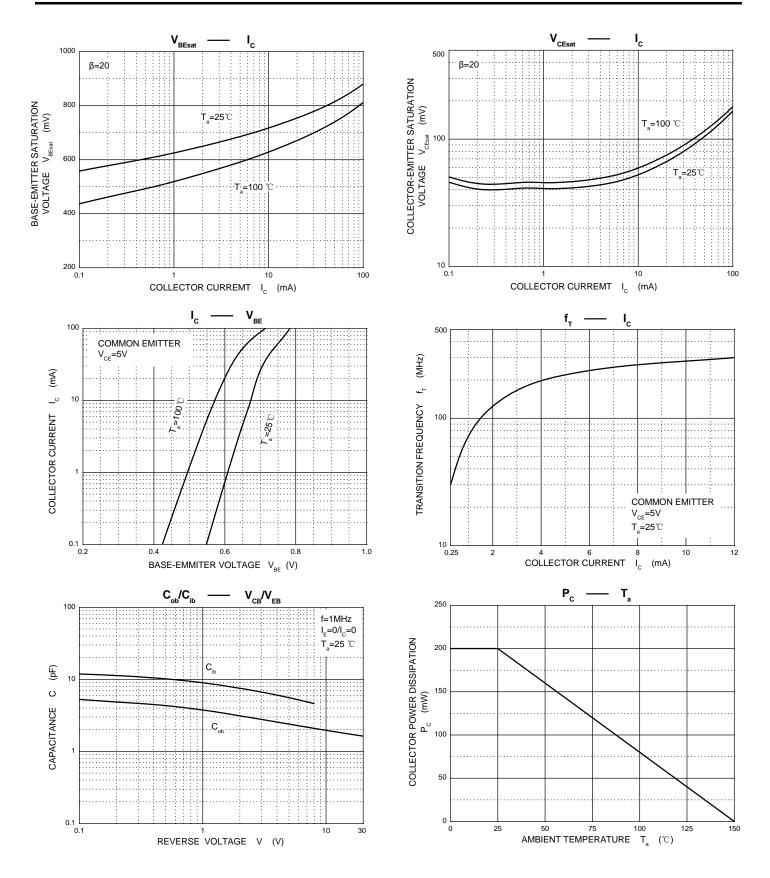
Symbol	Parameter		Test conditions	Min	Max	Unit
V <sub>(BR)CBO</sub>	Collector-base	BC846		80		
		BC847	$I_{C}=10\mu A, I_{E}=0$	50		V
	breakdown voltage	BC848	·	30		
	Callagtan ansittan	BC846		65		
V <sub>(BR)CEO</sub>	Collector-emitter	BC847	$I_C=10mA$ , $I_B=0$	45		V
	breakdown voltage	BC848		30		
V <sub>(BR)EBO</sub>	Emitter-base		I <sub>E</sub> =10μΑ, I <sub>C</sub> =0	6		V
▼ (BR)EBO	breakdown voltage		IE- ΙΟμΑ, IC-O			v
	Collector cut-off current	BC846	V <sub>CB</sub> =70V, I <sub>E</sub> =0			
I <sub>CBO</sub>		BC847	$V_{CB}$ =50V, $I_E$ =0		100	nA
		BC848	V <sub>CB</sub> =30V, I <sub>E</sub> =0			
I <sub>EBO</sub>	Emitter cut-off current		$V_{EB}$ =5 $V$ , $I_{C}$ =0		100	nA
	DC current gain	BC846A BC847A BC848A		110	220	
h <sub>FE</sub>		BC846B BC847B BC848B	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	200	450	
		BC846C BC847C BC848C		420	800	
V <sub>CE(sat)</sub>	Collector-emitter				0.5	V
	saturation voltage		 		0.5	V
V <sub>BE(sat)</sub>	Base-emitter saturation		IC-TOUTIA, IB-SITIA		1.1	V
	voltage				1.1	v
f⊤	Transition frequency		V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=30MHz	100		MHz
Cob	Collector output capacitance		V <sub>CB</sub> =10V,f= 1MHz		4.5	pF

# **Typical Characteristics**



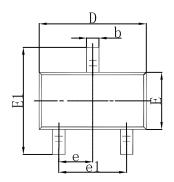


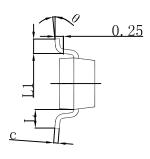


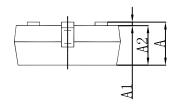




# **SOT-23 Package Outline Dimensions**

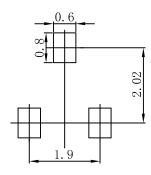






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
Α	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
С	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
е	0.950	0.037 TYP 0.037 TYP		7 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**



#### Note:

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

# BC846/BC847/BC848 NPN Plastic-Encapsulate Transistors

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