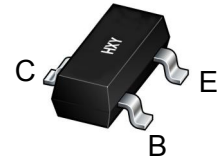




## FEATURES

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

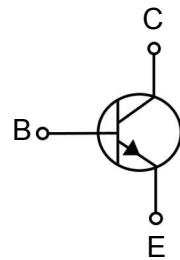


SOT-23

## 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)

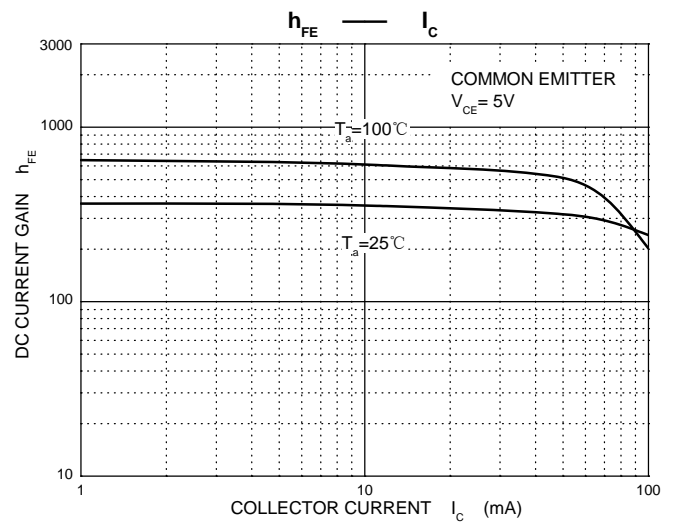
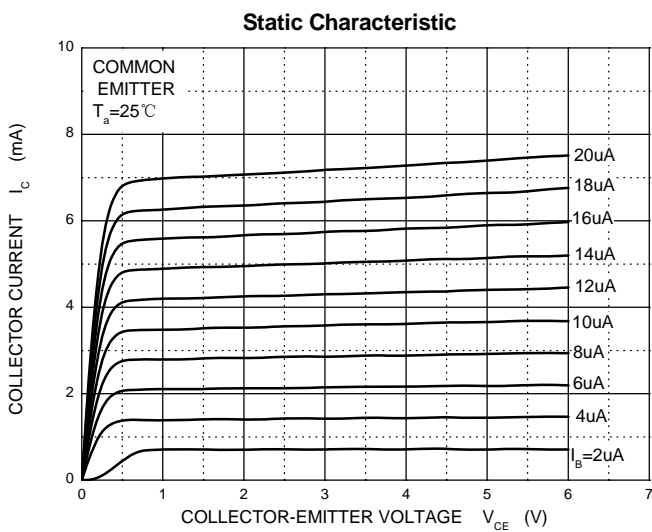
Symbol	Parameter	Limit	Unit	
$V_{CBO}$	Collector-Base Voltage	BC846	80	V
		BC847	50	
		BC848	30	
$V_{CEO}$	Collector-Emitter Voltage	BC846	65	V
		BC847	45	
		BC848	30	
$V_{EBO}$	Emitter-Base Voltage	6	V	
$I_C$	Collector Current	100	mA	
$P_C$	Collector Power Dissipation	200	mW	
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}C/W$	
$T_j$	Junction Temperature	150	$^{\circ}C$	
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}C$	

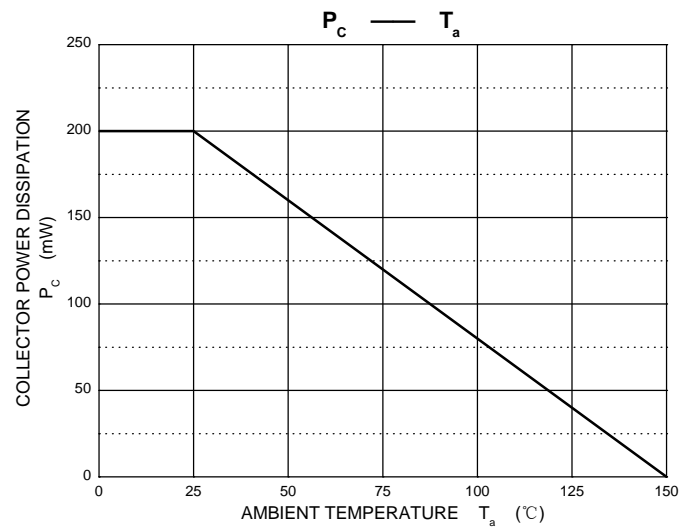
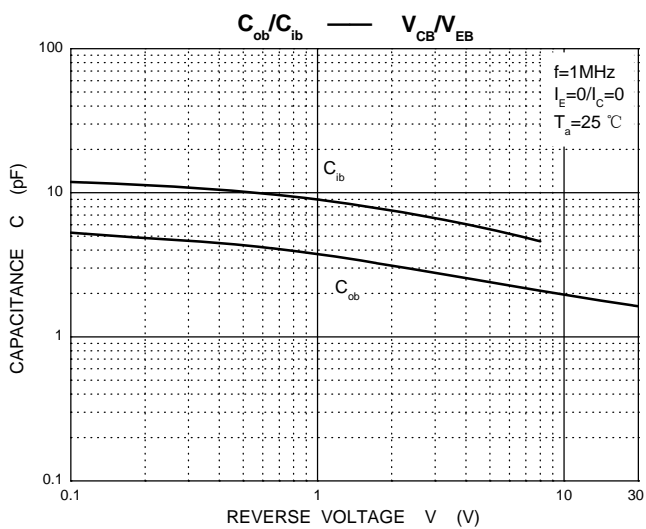
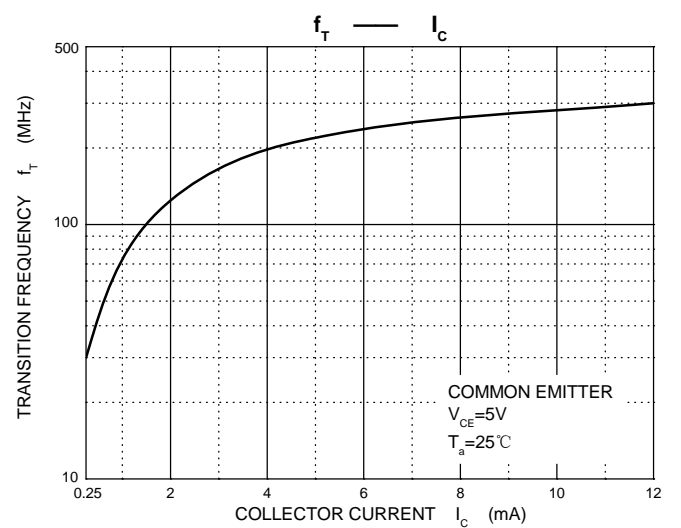
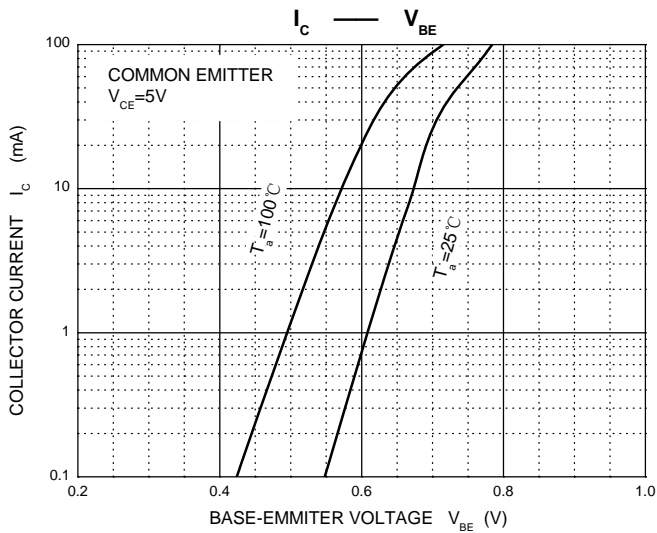
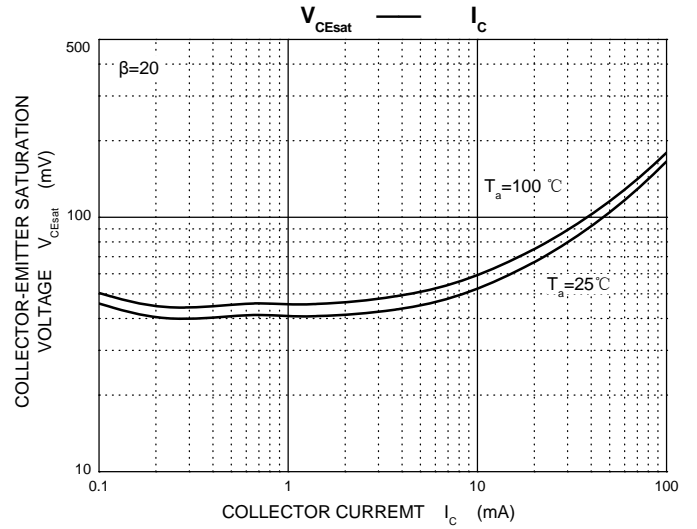
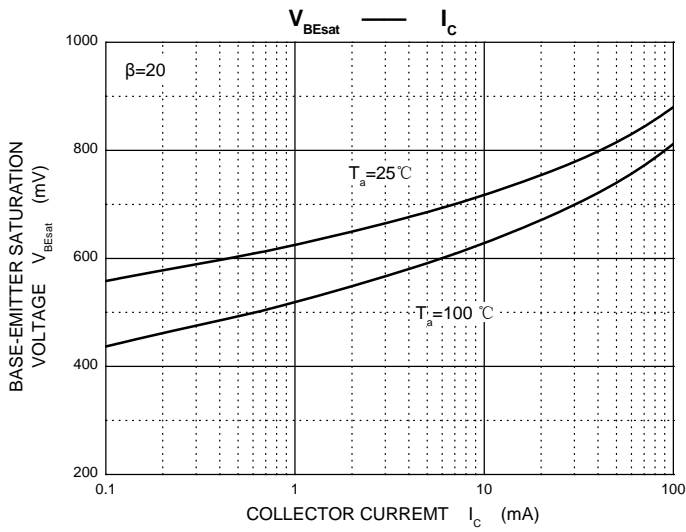


**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25 unless otherwise specified)**

Symbol	Parameter		Test conditions	Min	Max	Unit
V <sub>(BR)CBO</sub>	Collector-base breakdown voltage	BC846 BC847 BC848	I <sub>C</sub> =10μA, I <sub>E</sub> =0	80 50 30		V
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	BC846 BC847 BC848	I <sub>C</sub> =10mA, I <sub>B</sub> =0	65 45 30		V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage		I <sub>E</sub> =10μA, I <sub>C</sub> =0	6		V
I <sub>CBO</sub>	Collector cut-off current	BC846 BC847 BC848	V <sub>CB</sub> =70V, I <sub>E</sub> =0 V <sub>CB</sub> =50V, I <sub>E</sub> =0 V <sub>CB</sub> =30V, I <sub>E</sub> =0		100	nA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V, I <sub>C</sub> =0		100	nA
h <sub>FE</sub>	DC current gain	BC846A BC847A BC848A BC846B BC847B BC848B BC846C BC847C BC848C	V <sub>CE</sub> =5V, I <sub>C</sub> =2mA	110 200 420	220 450 800	
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =100mA, I <sub>B</sub> =5mA		0.5	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage				1.1	V
f <sub>T</sub>	Transition frequency		V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=30MHz	100		MHz
C <sub>ob</sub>	Collector output capacitance		V <sub>CB</sub> =10V, f= 1MHz		4.5	pF

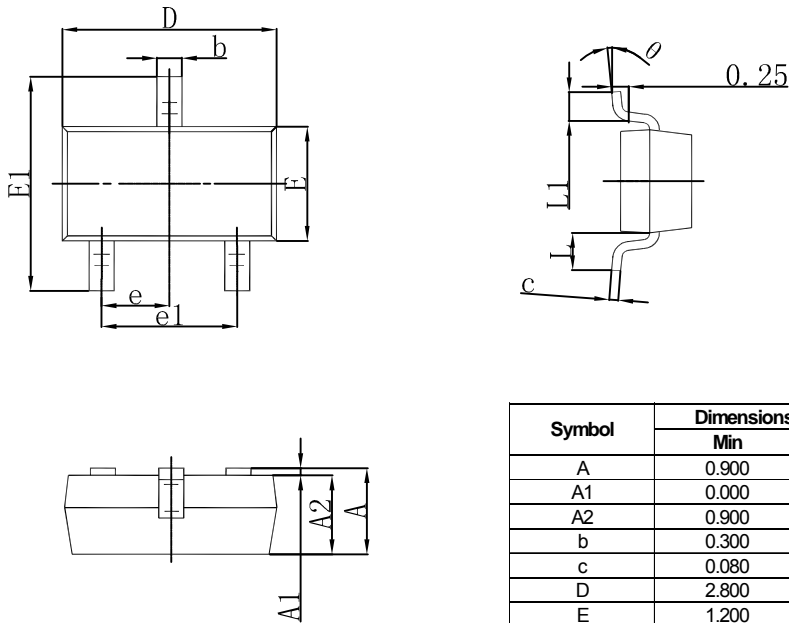
**Typical Characteristics**





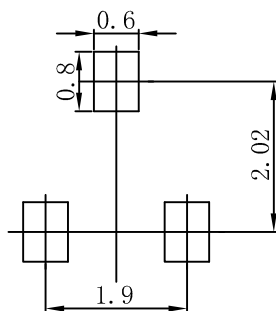


### SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
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



**Note:**

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



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