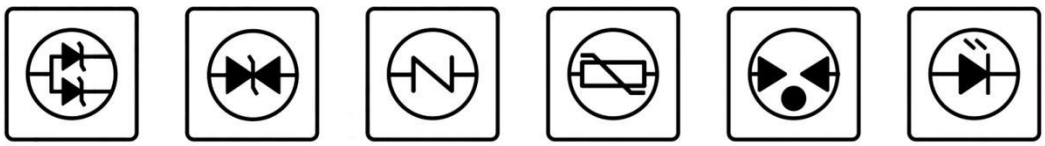
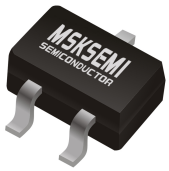
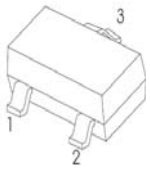
MSKSEMI
SEMICONDUCTOR



Product data sheet



SOT－23



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

Ideally suited for automatic insertion
For switching and AF amplifier applications

DEVICE MARKING

P/N	MARK	P/N	MARK	P/N	MARK
BC846A	1A	BC847A	1E	BC848A	1J
BC846B	1B	BC847B	1F	BC848B	1K
BC846C	1C	BC847C	1G	BC848C	1L

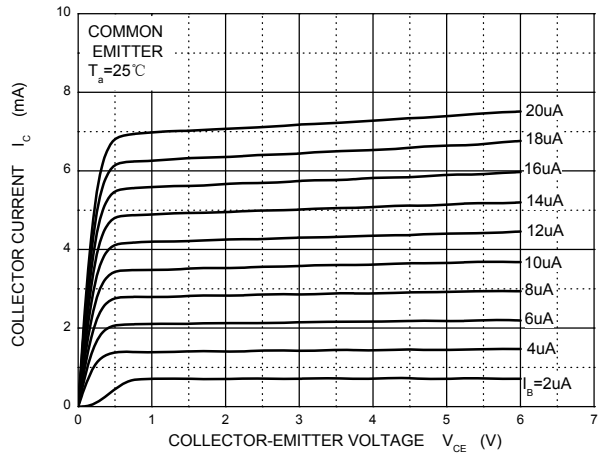
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage		V
	BC846	80	
	BC847	50	
	BC848	30	
V_{CEO}	Collector-Emitter Voltage		V
	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
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

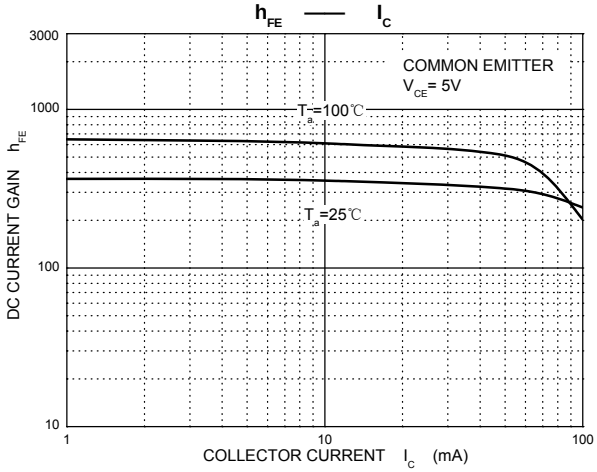
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter		Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846	V_{CBO}	I_C= 10μA, I_E=0	80			V
	BC847			50			
	BC848			30			
Collector-emitter breakdown voltage	BC846	V_{CEO}	I_C= 10mA, I_B=0	65			V
	BC847			45			
	BC848			30			
Emitter-base breakdown voltage		V_{EBO}	I_E= 10μA, I_C=0	6			V
Collector cut-off current	BC846	I_{CBO}	V_{CB}=70 V , I_E=0			0.1	μA
	BC847		V_{CB}=50 V , I_E=0				
	BC848		V_{CB}=30 V , I_E=0				
Collector cut-off current	BC846	I_{CEO}	V_{CE}=60 V , I_B=0			0.1	μA
	BC847		V_{CE}=45 V , I_B=0				
	BC848		V_{CE}=30 V , I_B=0				
Emitter cut-off current		I_{EBO}	V_{EB}=5 V , I_C=0			0.1	μA
DC current gain	BC846A,847A,848A	h_{FE}	V_{CE}= 5V, I_C= 2mA	110		220	
	BC846B,847B,848B			200		450	
	BC846C,BC847C,BC848C			420		800	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=100mA, I_B= 5mA			0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=100mA, I_B= 5mA			1.1	V
Transition frequency		f_T	V_{CE}= 5 V, I_C= 10mA f=100MHz	100			MHz
Collector output capacitance		C_{ob}	V_{CB}=10V,f=1MHz			4.5	pF

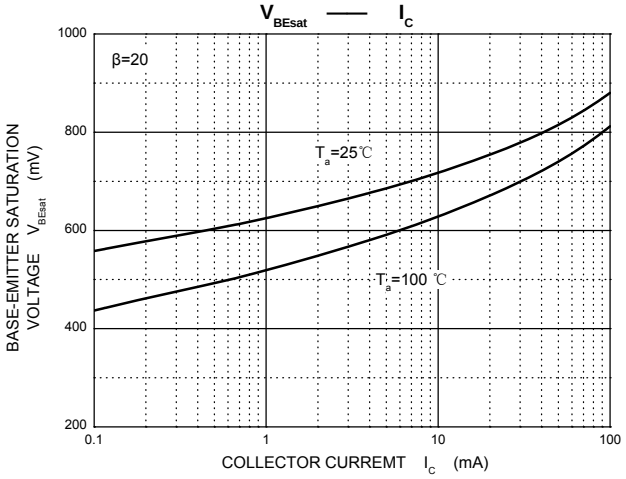
Static Characteristic



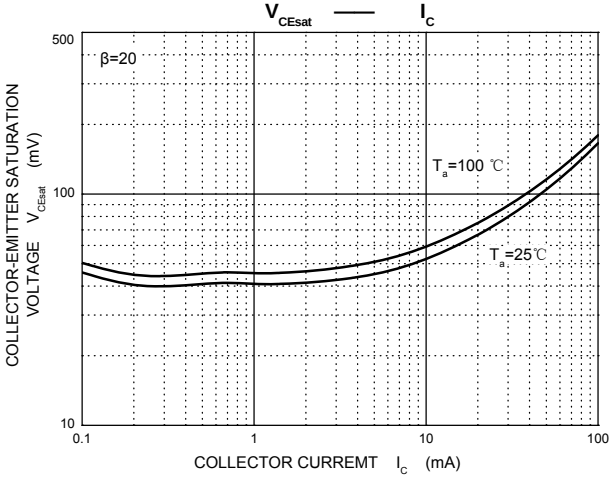
h_{FE} —— I_C



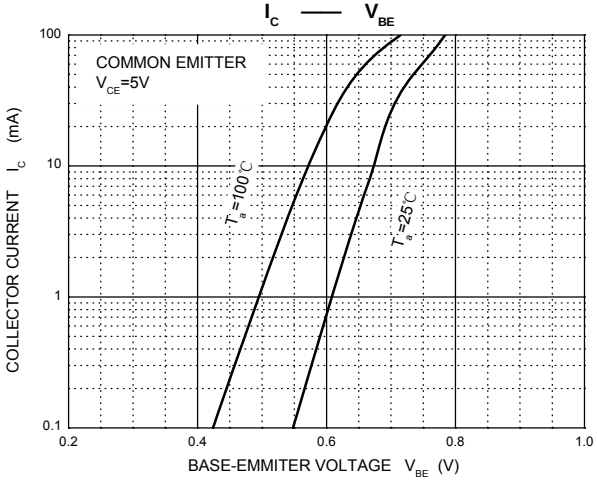
V_{BEsat} —— I_C



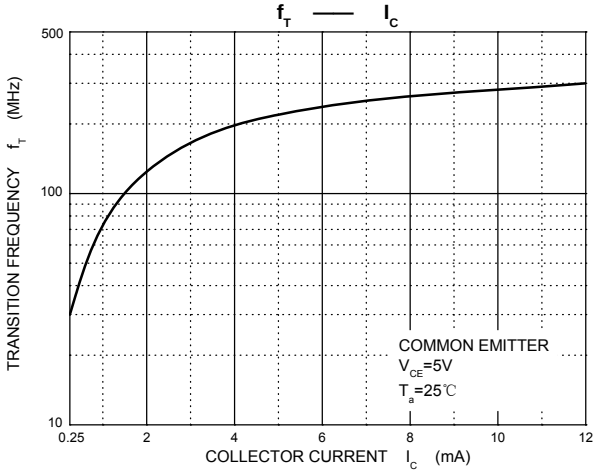
V_{CEsat} —— I_C



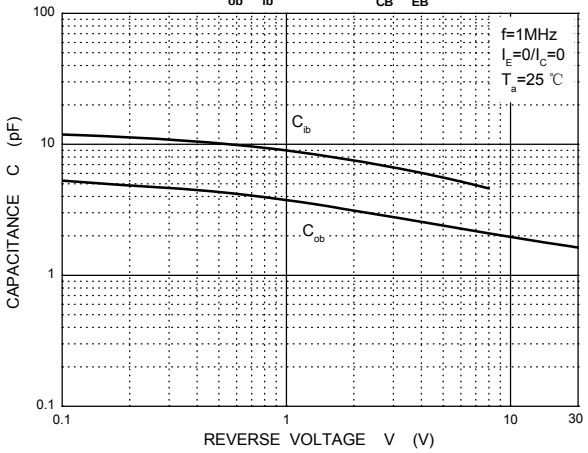
I_C —— V_{BE}



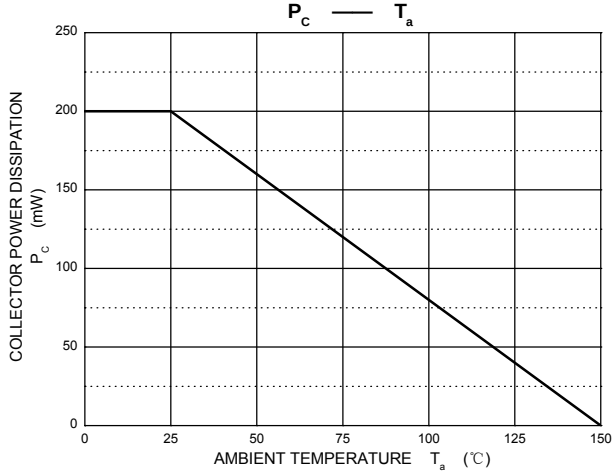
f_T —— I_C



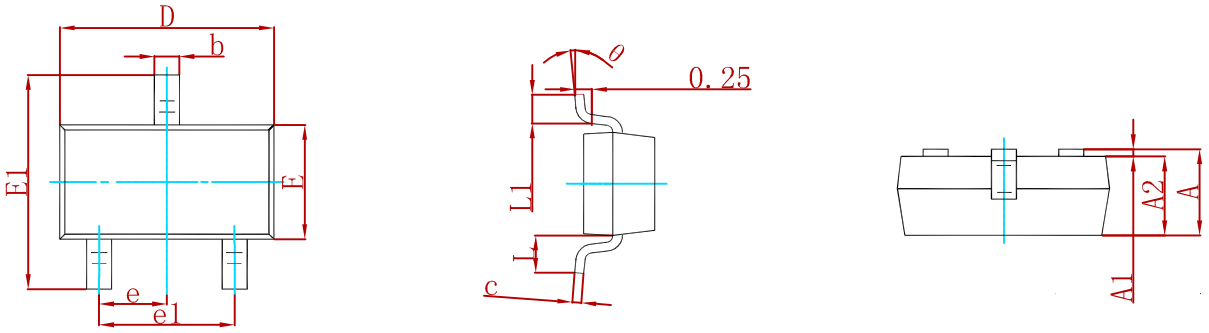
C_{ob}/C_{ib} —— V_{CB}/V_{EB}



P_C —— T_a

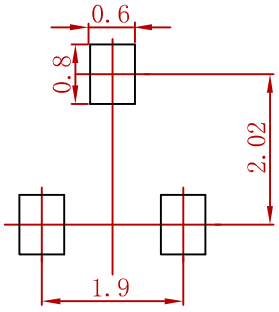


PACKAGE MECHANICAL DATA



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



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

REEL SPECIFICATION

P/N	PKG	QTY
BC846/BC847/BC848	SOT-23	3000

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