

MSKSEMI

SEMICONDUCTOR



ESD



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GDT



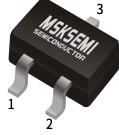
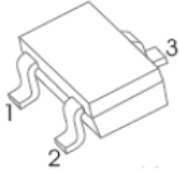
PLED

Product data sheet

www.msksemi.com

TRANSISTOR (NPN)

BC846W/BC847W/BC848W



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

SOT-323

FEATURES

- Ideally suited for automatic insertion
- For Switching and AF Amplifier Applications

P/N MARK

BC846AW=1A; BC846BW=1B;
BC847AW=1E; BC847BW=1F; BC847CW=1G;
BC848AW=1J; BC848BW=1K; BC848CW=1L

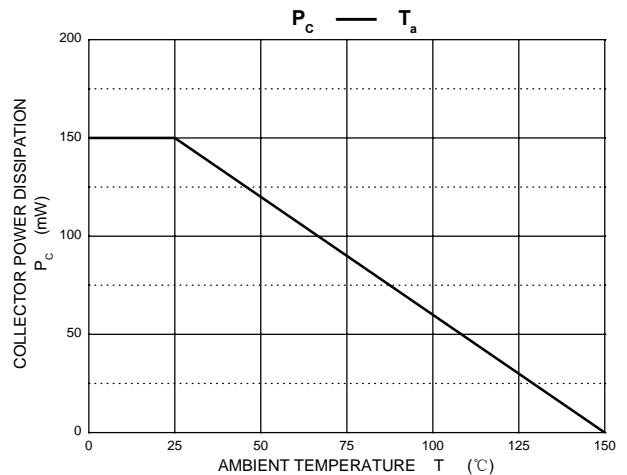
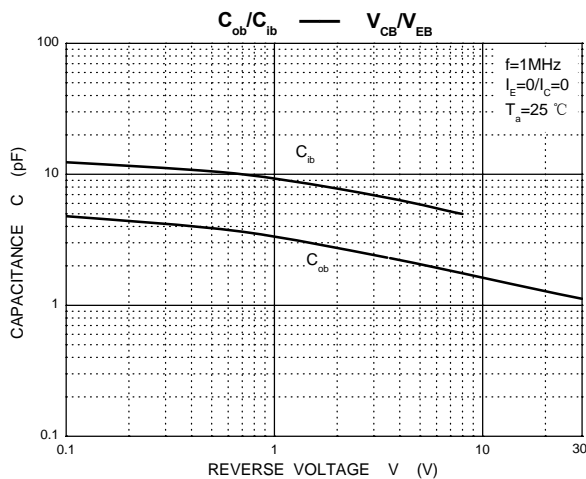
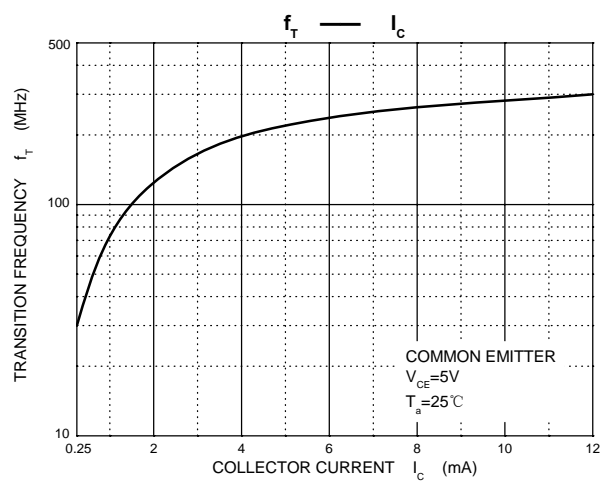
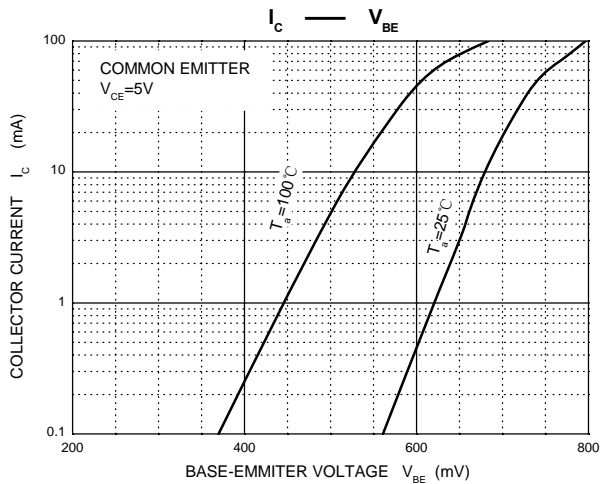
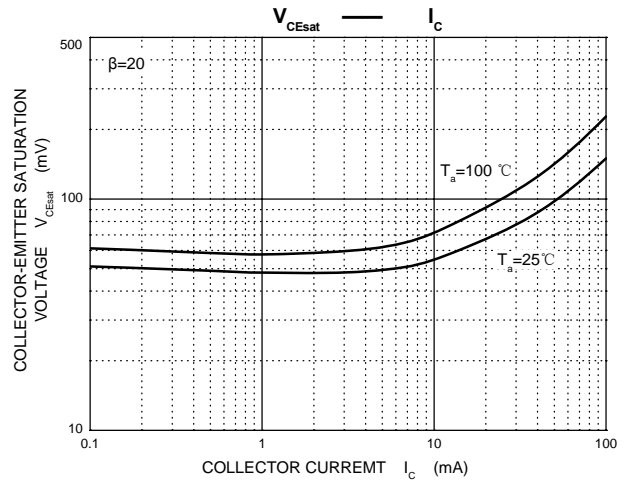
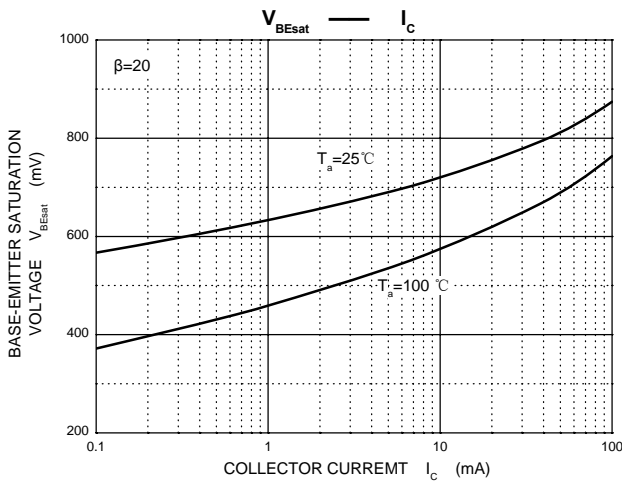
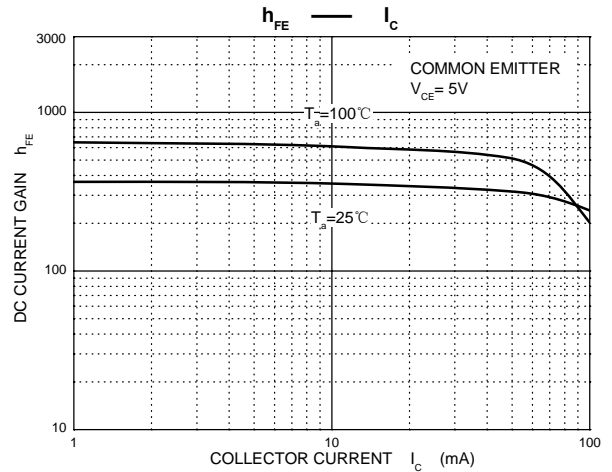
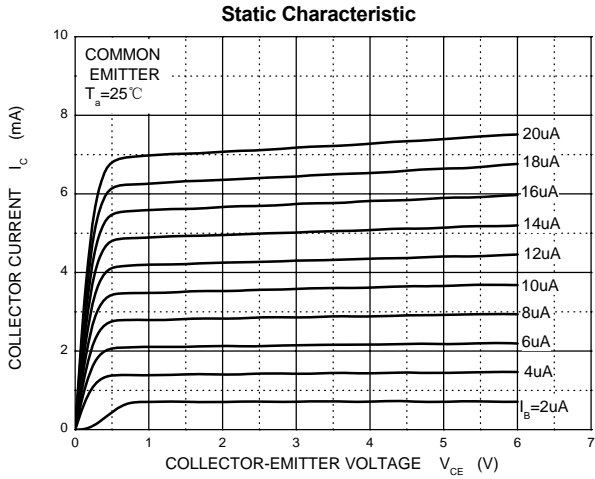
MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	BC846W 80	V
		BC847W 50	
		BC848W 30	
V_{CEO}	Collector-Emitter Voltage	BC846W 65	V
		BC847W 45	
		BC848W 30	
V_{EBO}	Emitter-Base Voltage	BC846W 6	V
		BC847W 6	
		BC848W 5	
I_C	Collector Current –Continuous	0.1	A
P_C	Collector Power Dissipation	150	mW
R_{θJA}	Thermal Resistance From Junction To Ambient	833	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	°C

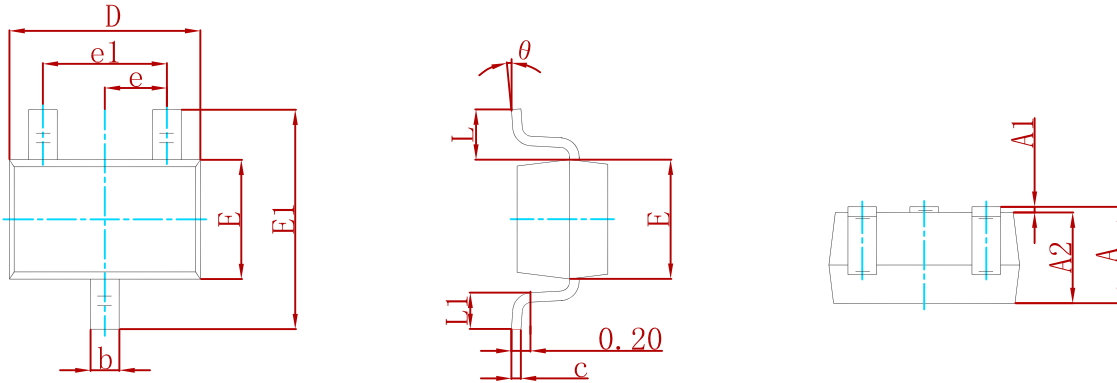
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC846W BC847W BC848W	V _{CBO} I _C = 10μA, I _E =0	80 50 30			V
Collector-emitter breakdown voltage	BC846W BC847W BC848W	V _{CEO} I _C = 10mA, I _B =0	65 45 30			V
Emitter-base breakdown voltage	BC846W BC847W BC848W	V _{EBO} I _E = 1 μA, I _C =0	6 6 5			V
Collector Cutoff Current		I _{CBO} V _{CB} =30V			15	nA
DC current gain	BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW	h _{FE} V _{CE} = 5V, I _C = 10μA V _{CE} = 5V, I _C = 2mA	 110 200 420	90 150 270	 220 450 800	
Collector-emitter saturation voltage		V _{CE(sat)} I _C =10mA, I _B =0.5mA I _C =100mA, I _B = 5mA			0.25 0.6	V
Base-emitter saturation voltage		V _{BE(sat)} I _C =10mA, I _B =0.5mA I _C =100mA, I _B = 5mA		0.7 0.9		V
Base-emitter voltage		V _{BE(on)} V _{CE} = 5V, I _C = 2mA V _{CE} = 5V, I _C = 10mA	580	660	700 770	mV
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
Noise figure	BC846AW,847AW,848AW BC846BW,847BW,848BW BC847CW,BC848CW	NF V _{CE} =5V,I _C =0.2mA, f=1KHz,R _S =2KΩ BW=200Hz			F€ 10 4	dB

Typical Characteristics

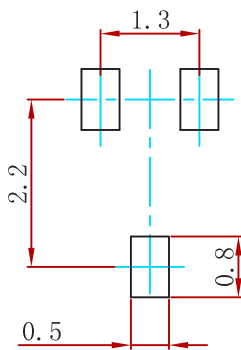


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
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
BC846W/BC847W/BC848W	SOT-323	3000

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