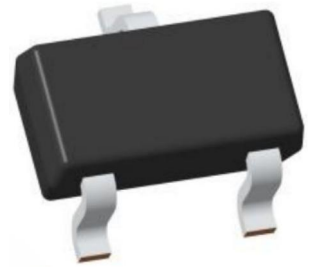


General Characteristics

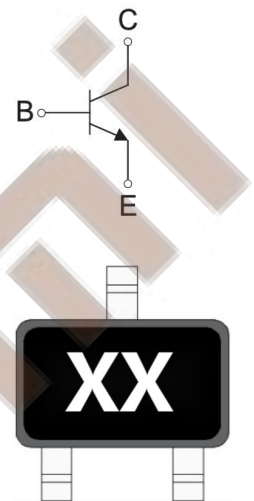
	VCEO	IC	VCE(sat)	fT	Tjmax
BC846W	65V	100mA	0.6V@IC=100mA	100MHz	150℃
BC847W	45V	100mA	0.6V@IC=100mA	100MHz	150℃
BC848W	30V	100mA	0.6V@IC=100mA	100MHz	150℃



Features

- SOT323 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260℃/10seconds

at terminals



Package Marking and Ordering Information

Product ID	Package	Marking	Qty(PCS)
BC846AW	SOT-323	1A	3000
BC847AW	SOT-323	1E	3000
BC848AW	SOT-323	1J	3000
BC846BW	SOT-323	1B	3000
BC847BW	SOT-323	1F	3000
BC848BW	SOT-323	1K	3000
BC847CW	SOT-323	1G	3000
BC848CW	SOT-323	1L	3000

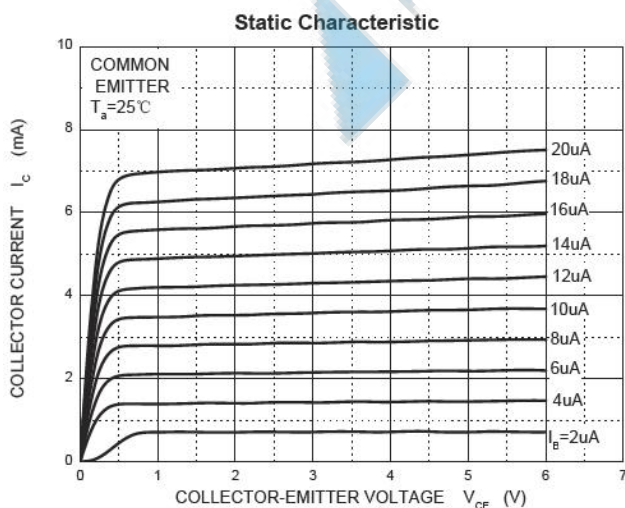
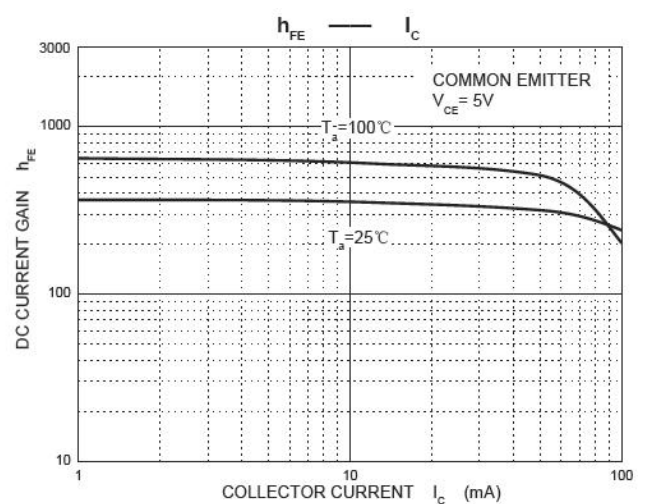
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

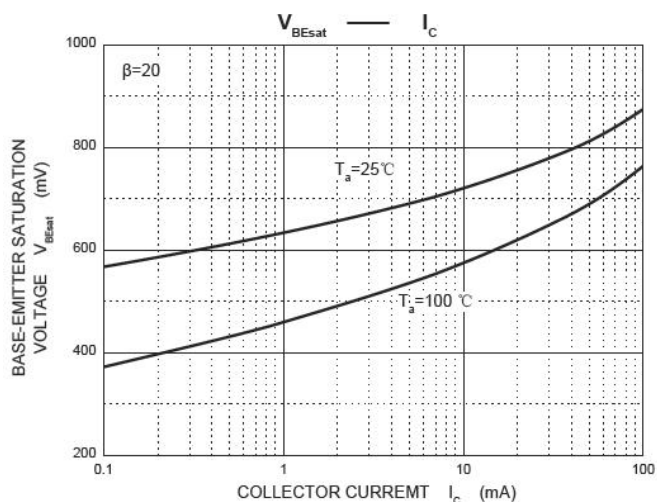
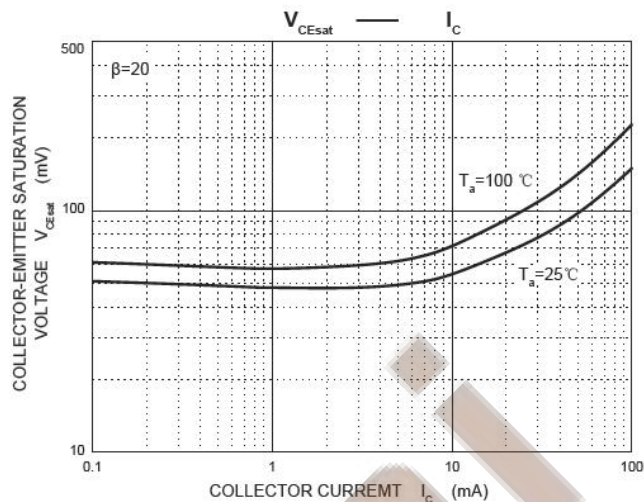
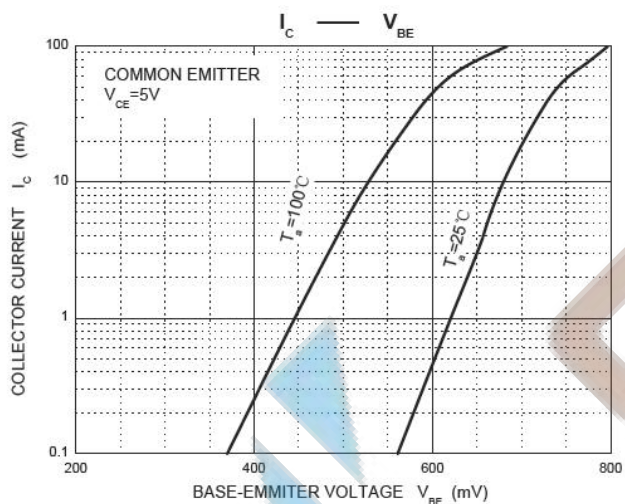
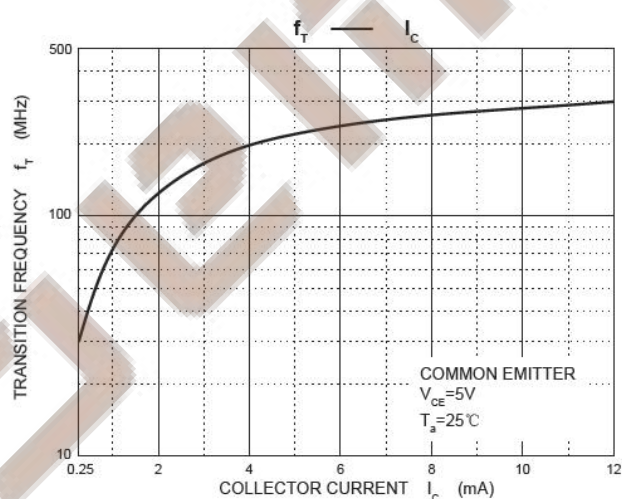
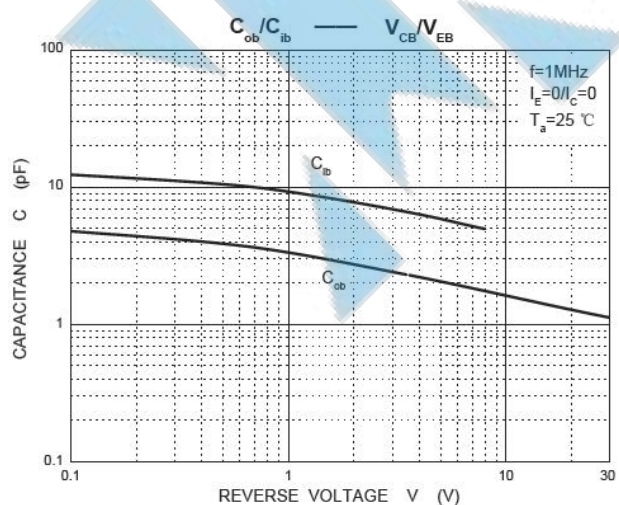
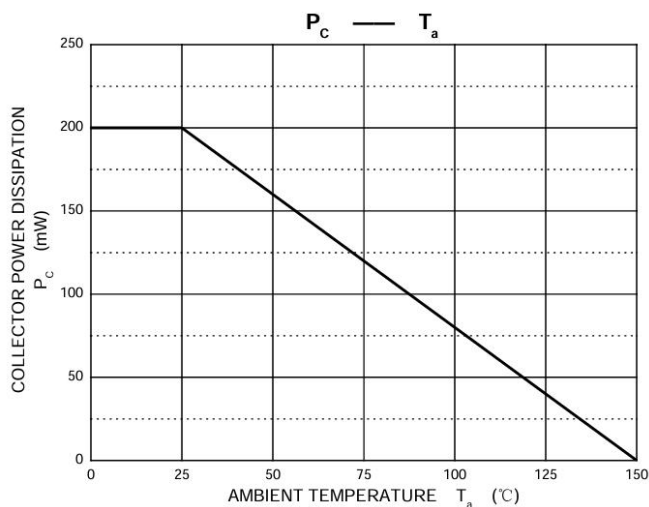
Parameters	Symbols		Value	Units
Collector-Base Voltage	VCBO	BC846W	80	V
		BC847W	50	
		BC848W	30	
Collector-Emitter Voltage	VCEO	BC846W	65	V
		BC847W	45	
		BC848W	30	
Emitter -Base Voltage	VEBO	BC846W	6	V
		BC847W	6	
		BC848W	5	
Collector Current-Continuous	IC		100	mA
Collector Power Dissipation	PC		200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55-+150	°C
Thermal resistance From junction to ambient	RθJA		625	°C/W

Electrical Characteristics(Ta=25°C unless otherwise noted)

Parameter	Symbol	Conditions		Min.	Max.	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	BC846W BC847W BC848W	80 50 30		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	BC846W BC847W BC848W	65 45 30		V
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	BC846W BC847W BC848W	6 6 5		V
Collector cut-off current	ICBO	VCB=70V, IE=0 VCB=50V, IE=0 VCB=30V, IE=0	BC846W BC847W BC848W		100	nA
Collector cut-off current	ICEO	VCE=60V, IE=0 VCE=45V, IE=0 VCE=30V, IE=0	BC846W BC847W BC848W		100	nA
Emitter cut-off current	IEBO	VEB=5V, IC=0			100	nA
DC current gain	hFE	VCE=5V, IC=2mA	BC846AW;BC847AW;BC848AW	110	220	
			BC846BW;BC847BW;BC848BW	200	450	
			BC847CW;BC848CW	420	800	
Collector-emitter saturation voltage	VCE(sat)	IC=10mA, IB=0.5mA			0.25	V
		IC=100mA, IB=5mA			0.60	
Base-emitter saturation voltage	VBE(sat)	IC=100mA, IB=5mA			1.10	V
Transition frequency	fT	VCE=5V, IC=10mA, f=100MHz		100		MHz
Collector output capacitance	Cob	VCB=10V, f=1MHz			4.5	pF

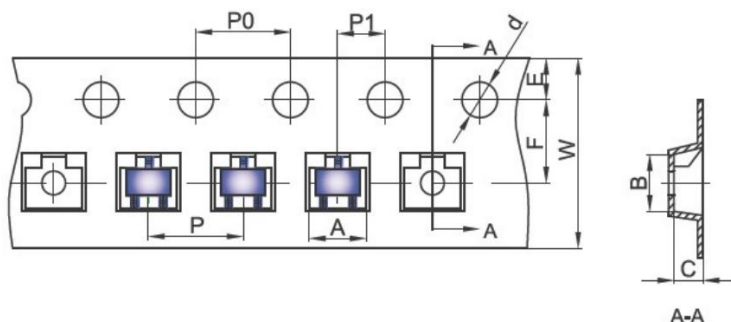
Typical characteristics





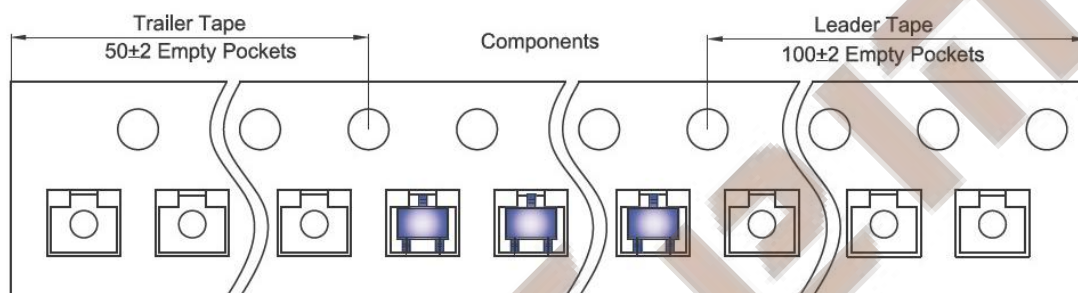
Package Information

Carrier Dimension(mm)

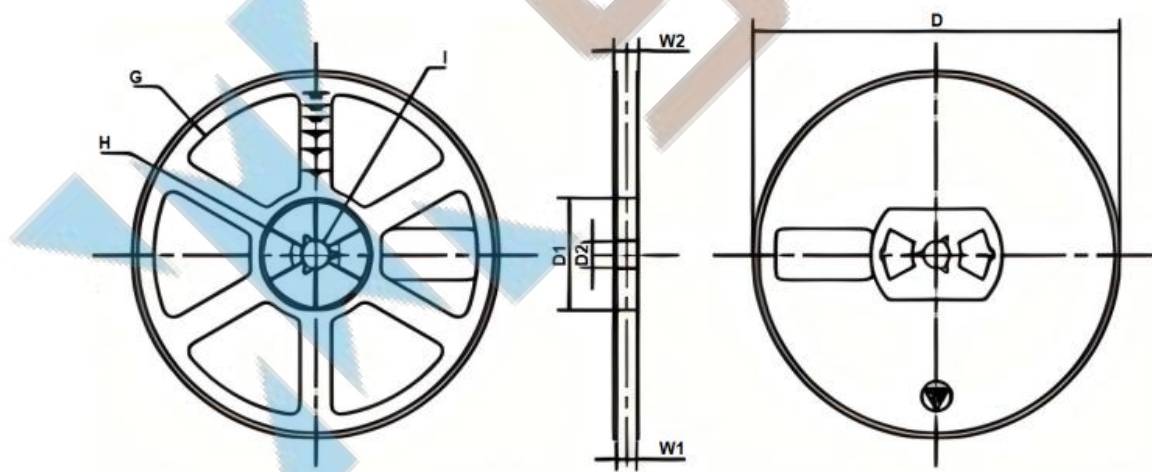


Dimensions are in millimeter

Pkg Type	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00



Reel Dimension(mm)



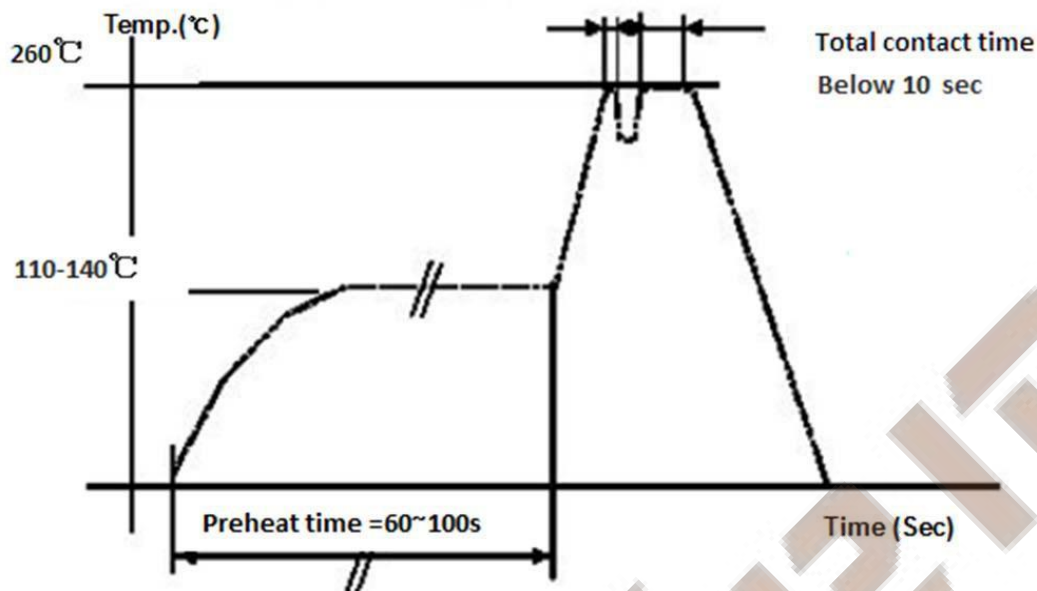
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

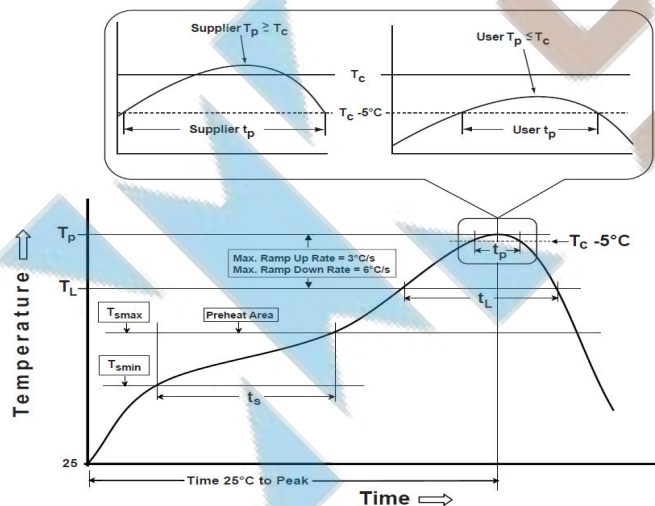
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT323	7'	178	3	210*208*203	45	440*400*230	180

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



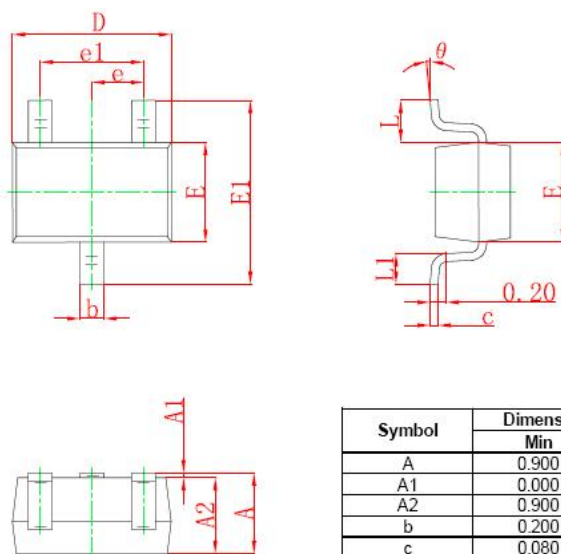
b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020



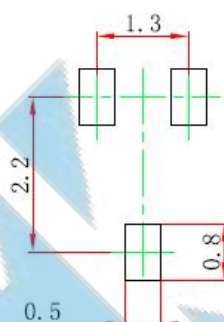
Preheat/Soak Temperature Min (T _{min}) Temperature Max (T _{max}) Time (ts) from (T _{min} to T _{max})	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5°C
Time within 5°Cbelow Peak Temp.	20~40 Sec
Cooling Rate	6°C/sec (max)
Time from 25°C to Peak Temp.	8min (max)

c) Manual Soldering

When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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