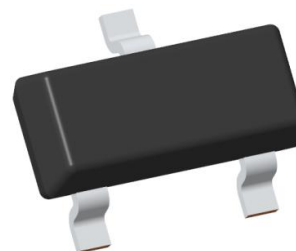


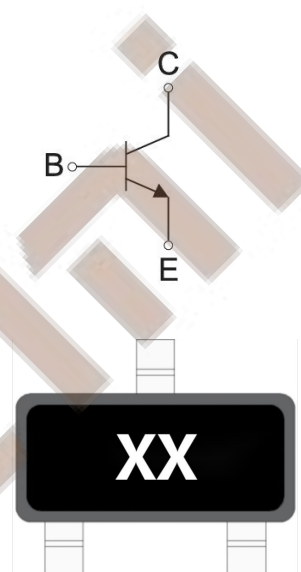
General Characteristics

	VCEO	IC	VCE(sat)	fT	Tjmax
BC846	65V	100mA	0.6V	100MHz	150℃
BC847	45V	100mA	0.6V	100MHz	150℃
BC848	30V	100mA	0.6V	100MHz	150℃



Features

- SOT23 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

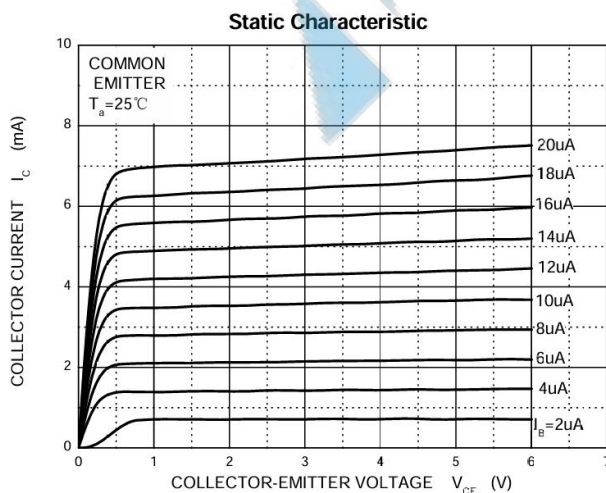
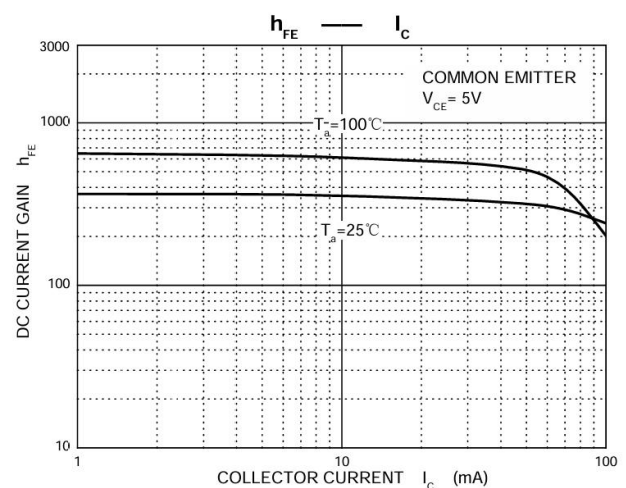
Product ID	Package	Marking	Qty(PCS)
BC846A	SOT-23	1A	3000
BC847A	SOT-23	1E	3000
BC848A	SOT-23	1J	3000
BC846B	SOT-23	1B	3000
BC847B	SOT-23	1F	3000
BC848B	SOT-23	1K	3000
BC846C	SOT-23	1C	3000
BC847C	SOT-23	1G	3000
BC848C	SOT-23	1L	3000

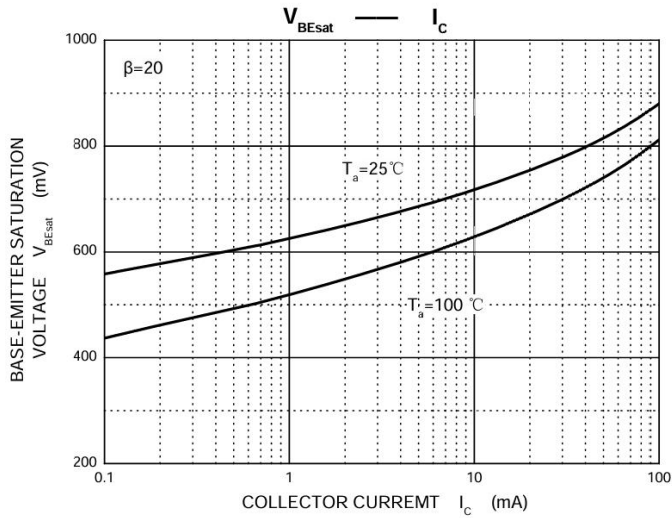
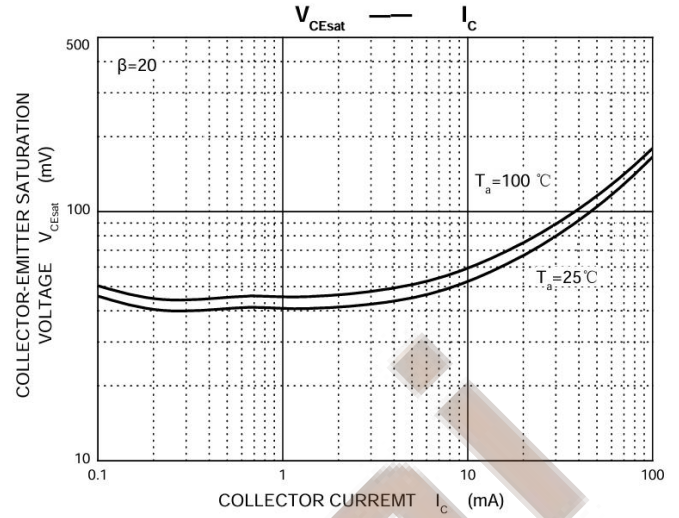
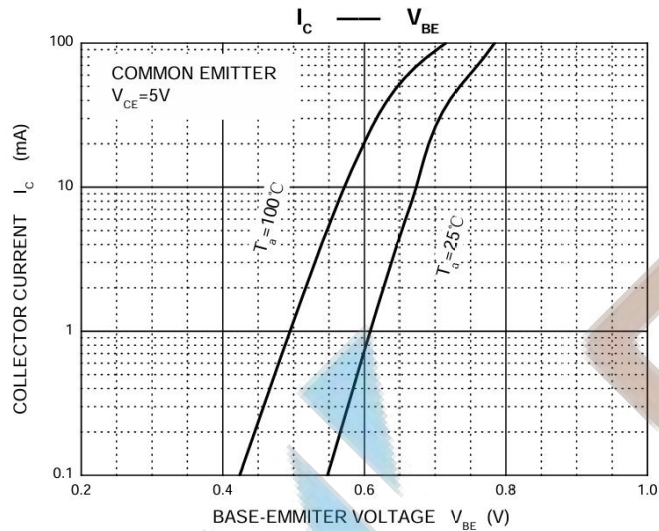
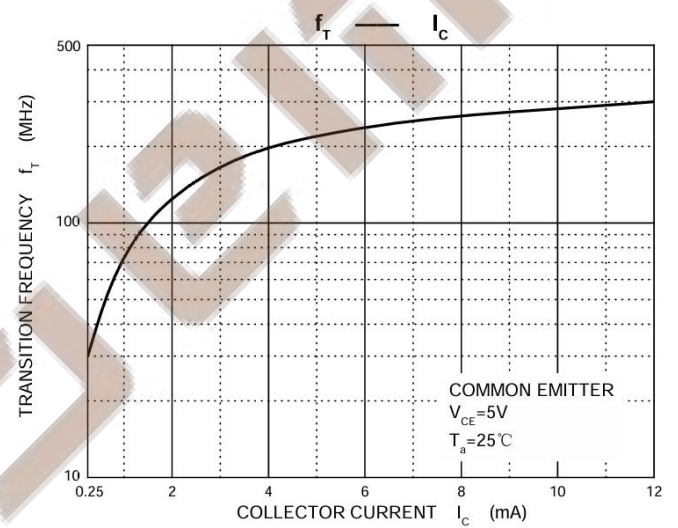
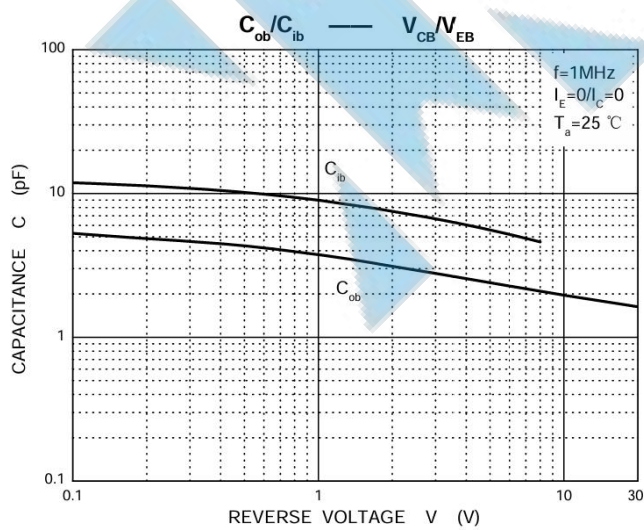
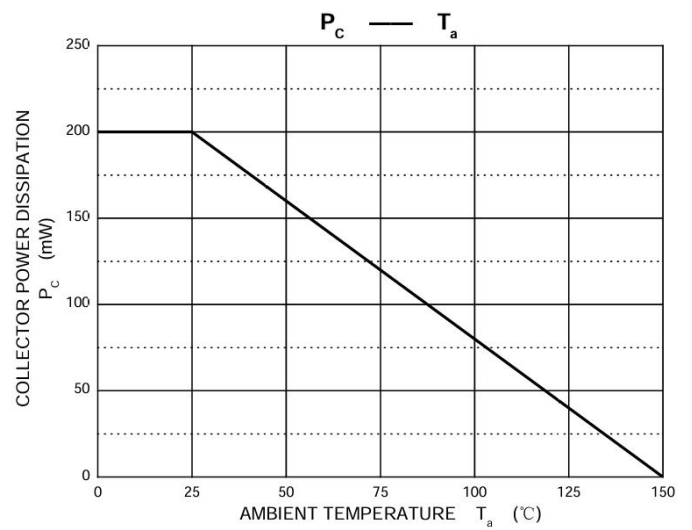
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameters	Symbols		Value	Units
Collector-Base Voltage	VCBO	BC846	80	V
		BC847	50	
		BC848	30	
Collector-Emitter Voltage	VCEO	BC846	65	V
		BC847	45	
		BC848	30	
Emitter -Base Voltage	VEBO	BC846	6	V
		BC847	6	
		BC848	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)

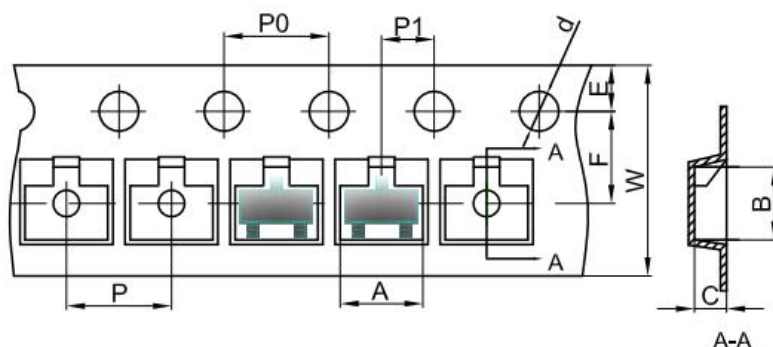
Parameter	Symbol	Conditions		Min.	Max.	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	BC846	80		V
			BC847	50		
			BC848	30		
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	BC846	65		V
			BC847	45		
			BC848	30		
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	BC846	6		V
			BC847	6		
			BC848	5		
Collector cut-off current	ICBO	VCB=70V, IE=0	BC846		0.1	uA
		VCB=50V, IE=0	BC847			
		VCB=30V, IE=0	BC848			
Emitter cut-off current	IEBO	VEB=5V, IC=0			0.1	uA
DC current gain	hFE	VCE=5V, IC=2mA	BC846A;BC847A;BC848A	110	220	
			BC846B;BC847B;BC848B	200	450	
			BC846C;BC847C;BC848C	420	800	
Collector-emitter saturation voltage	VCE(sat)	IC=100mA, IB=5mA			0.5	V
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




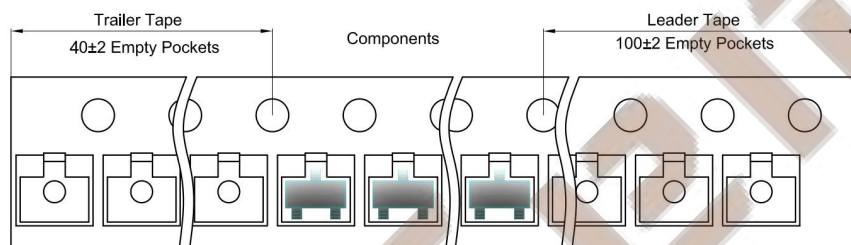
Package Information

Carrier Dimension(mm)

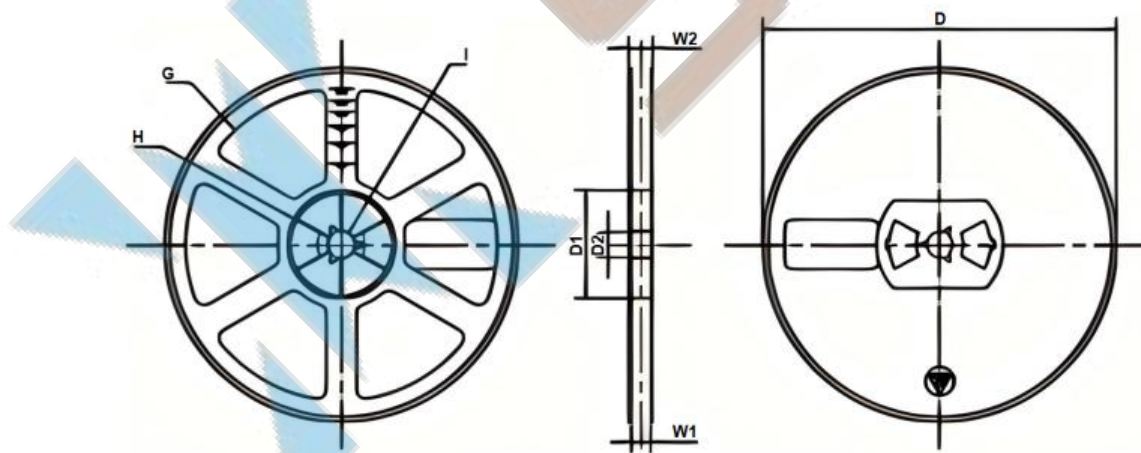


Dimensions are in millimeter

Pkg Type	A0	A1	B0	B1	K0	D0	D1	E	F	P0	P1	P2	10*P0	W	T
SOT-23	3.15	1.09	2.77	2.15	1.22	1.55	1.00	1.75	3.50	4.00	4.00	2.00	40.00	8.00	0.20
(Tolerance)	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.2	±0.1	±0.03



Reel Dimension(mm)



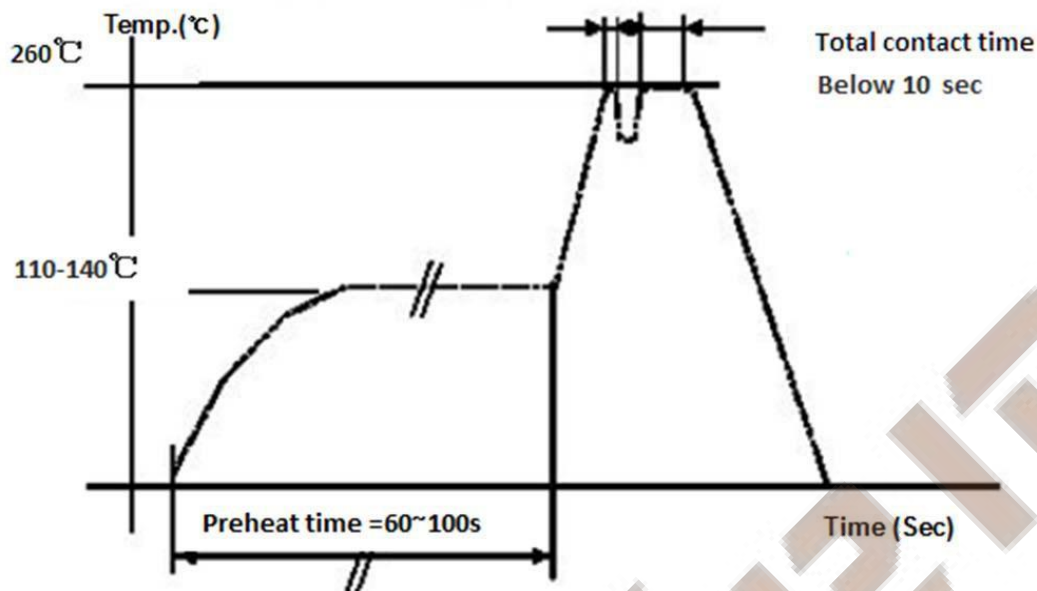
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

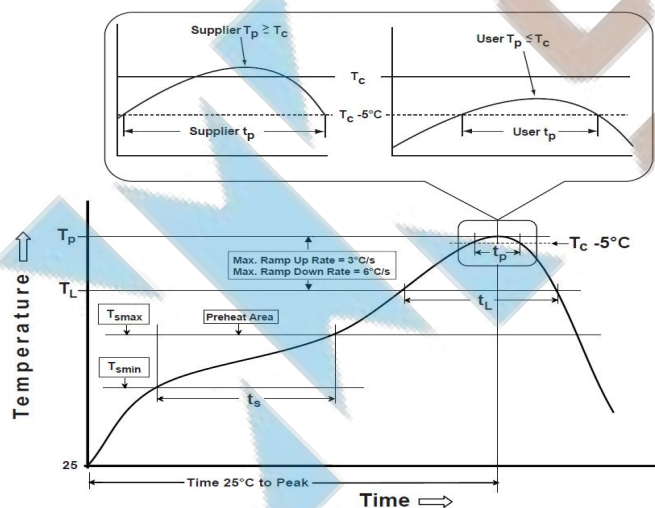
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT23	7'	178	3	210*208*203	45	440*400*230	180

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

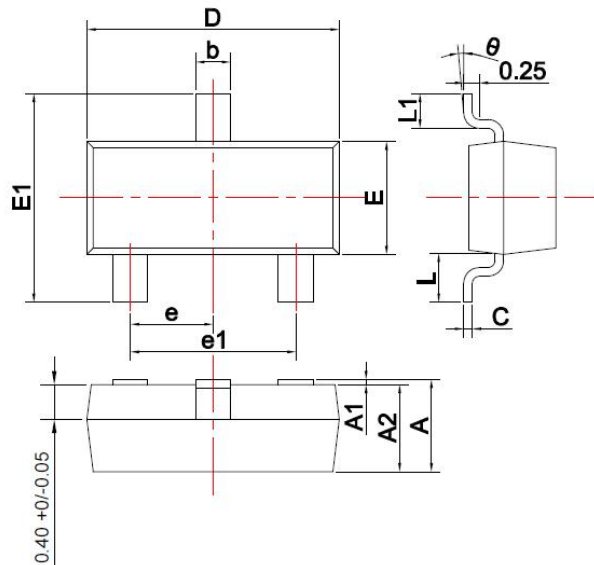


Preheat/Soak Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (ts) from (T _{smin} to T _{smax})	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	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.

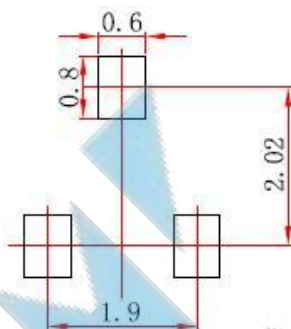
Package Mechanical Data



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Suggested Pad Layout



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

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