

General Description

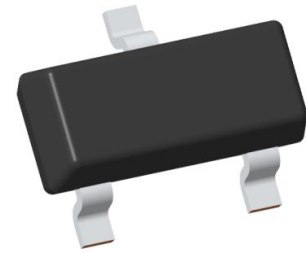
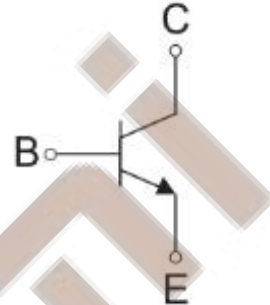
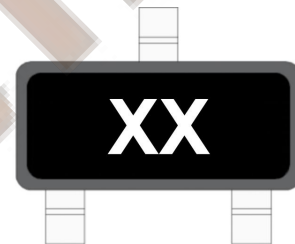


V_{CEO}	I_C	$V_{CE(sat)}$	f_T	T_{jMax}
45V	500mA	0.7V@ $I_C=500mA$	100MHz	150°C

Features

- SOT-23 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260°C/10seconds

at terminals



Package Marking and Ordering Information

Product ID	Package	Marking	Qty(PCS)
BC817	SOT-23	XX	3000

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

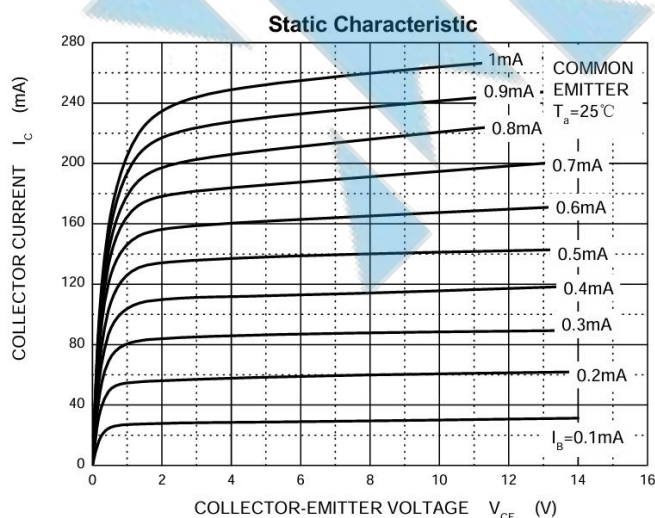
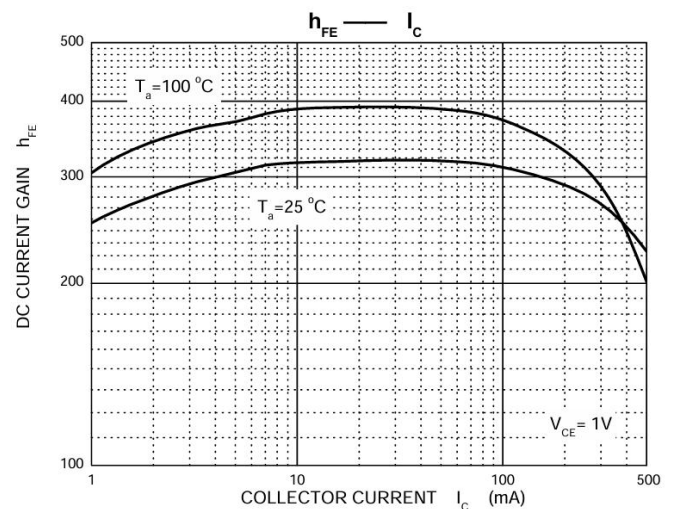
Parameter	Symbols	Value	Units
Collector-Base Voltage	VCBO	50	V
Collector-Emitter Voltage	VCEO	45	V
Emitter -Base Voltage	VEBO	5	V
Collector Current-Continuous	IC	500	mA
Collector Power Dissipation	PC	300	mW
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	-55-+150	°C

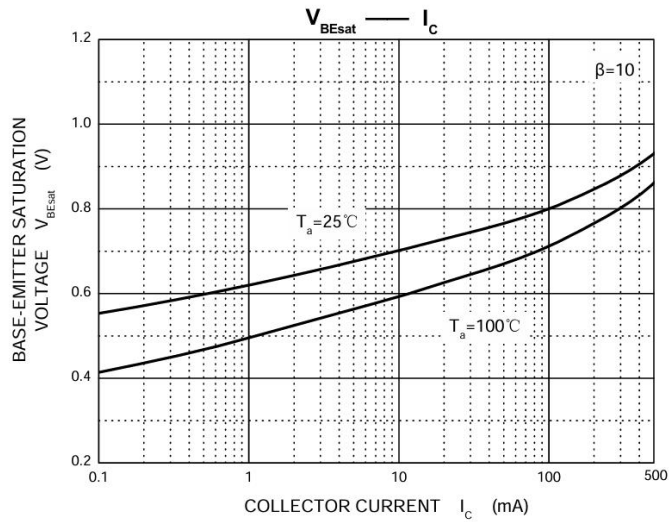
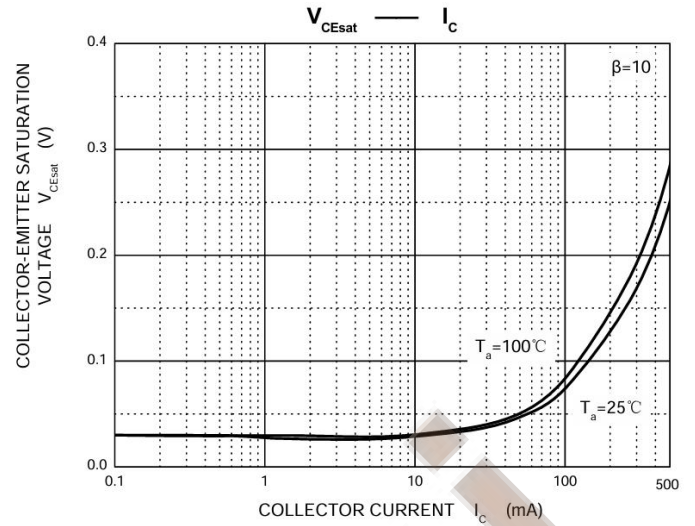
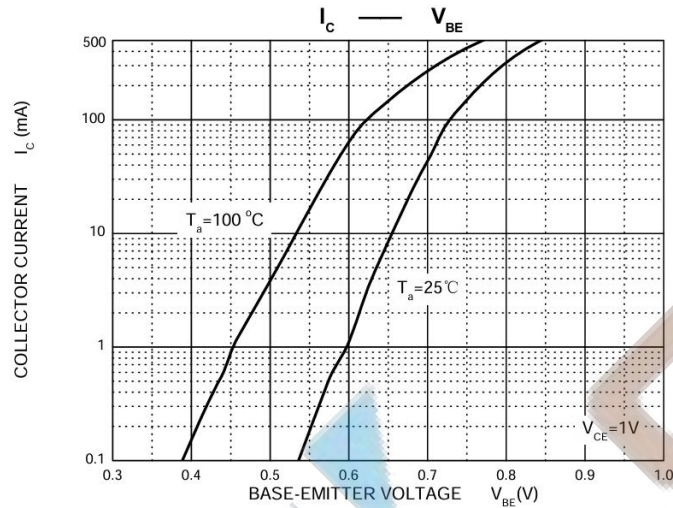
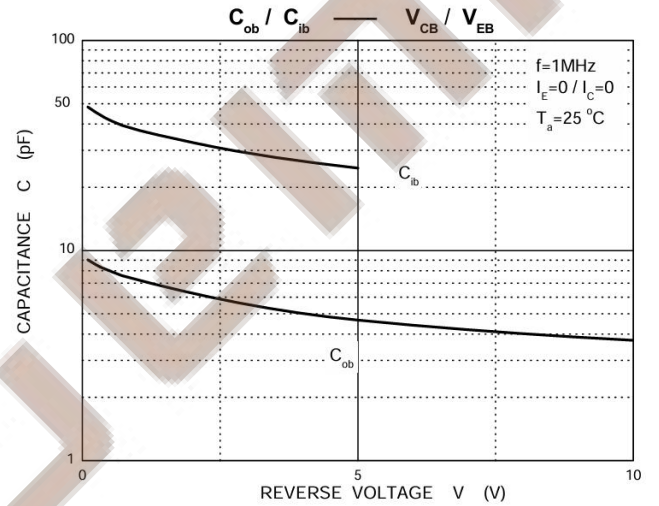
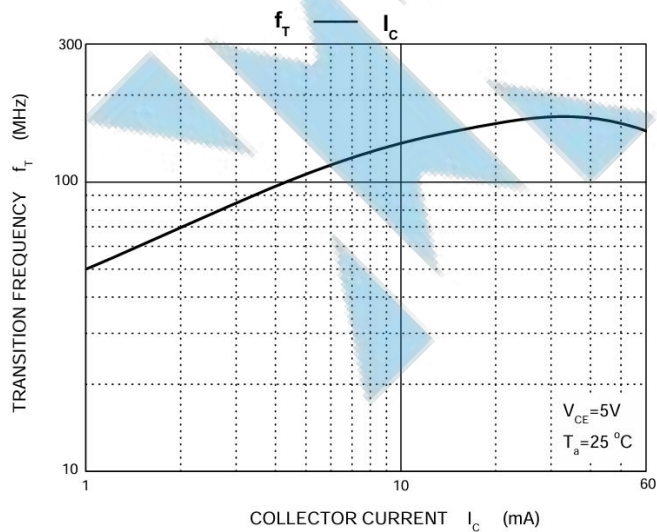
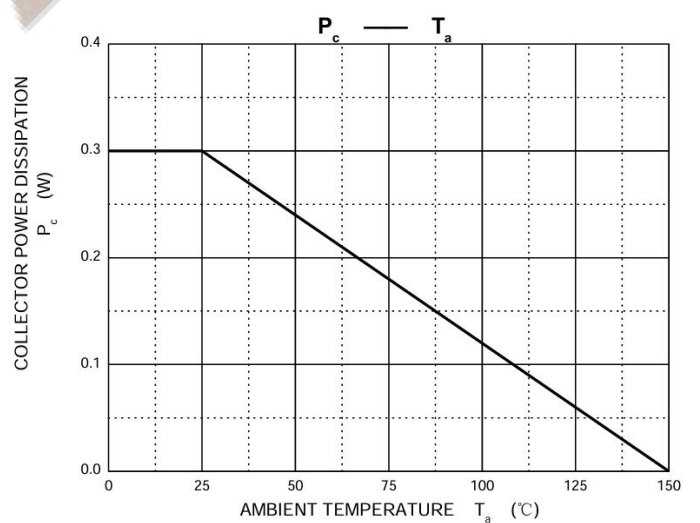
Electrical Characteristics(Ta=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	50			V
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	45			V
Emitter-base breakdown voltage	V(BR)EBO	IE=1uA, IC=0	5			V
Collector cut-off current	ICBO	VCE=45V, IE=0			100	nA
Emitter cut-off current	IEBO	VEB=4V, IC=0			100	nA
DC current gain	hFE1	VCE=1V, IC=100mA	100		600	
	hFE2	VCE=1V, IC=500mA	40			
Collector-emitter saturation voltage	VCE(sat)	IC=500mA, IB=50mA			0.70	V
Base-emitter saturation voltage	VBE(sat)	IC=500mA, IB=50mA			1.20	V
Transition frequency	fT	VCE=5V, IC=10mA, f=100MHz	100			MHz
Collector capacitance	Cob	VCE=10V, f=1MHz		10		pF

CLASSIFICATION OF hFE

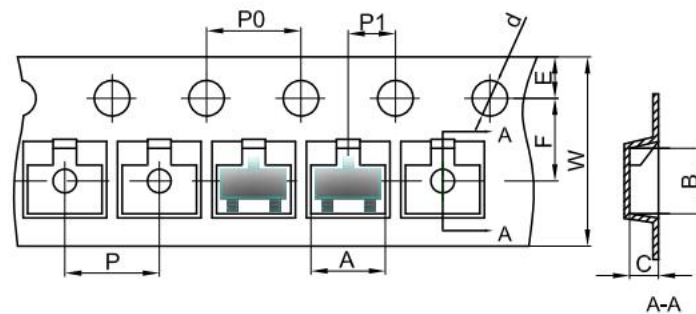
RANK	BC817-16	BC817-25	BC817-40
RANGE	100-250	160-400	250-600
Marking	6A	6B	6C

Typical characteristics




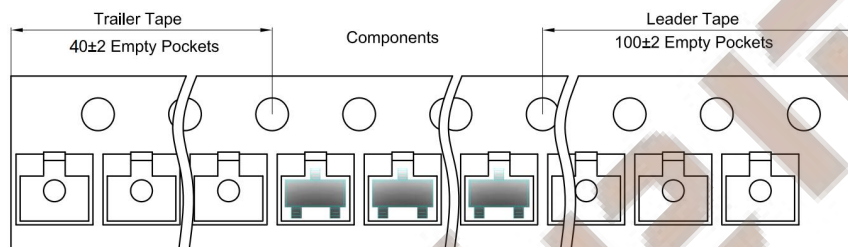
Package Information

Carrier Dimension(mm)

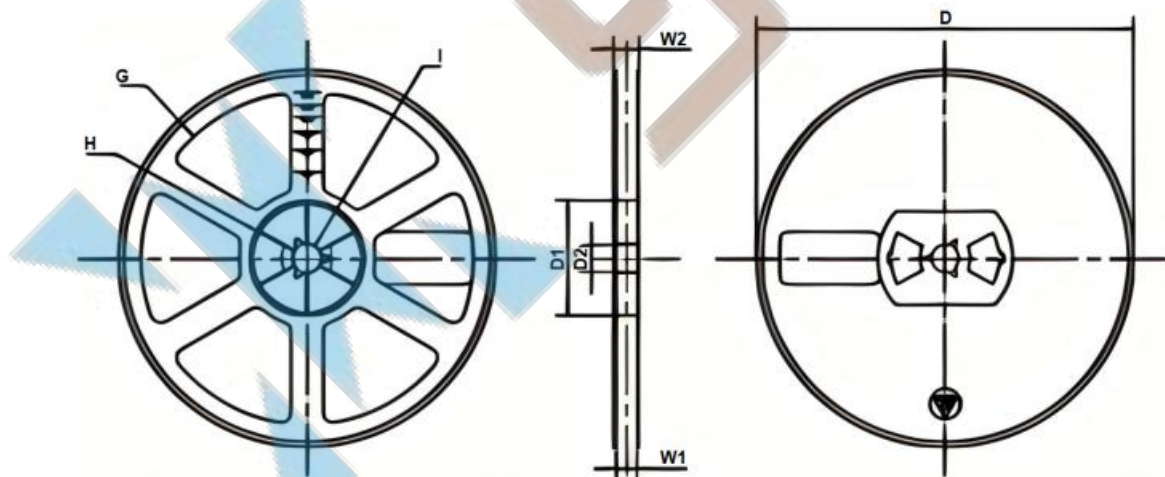


Dimensions are in millimeter

Pkg Type	A	B	C	d	E	F	P0	P	P1	10*P0	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	40.00	8.00
(Tolerance)	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.2	±0.1



Reel Dimension(mm)



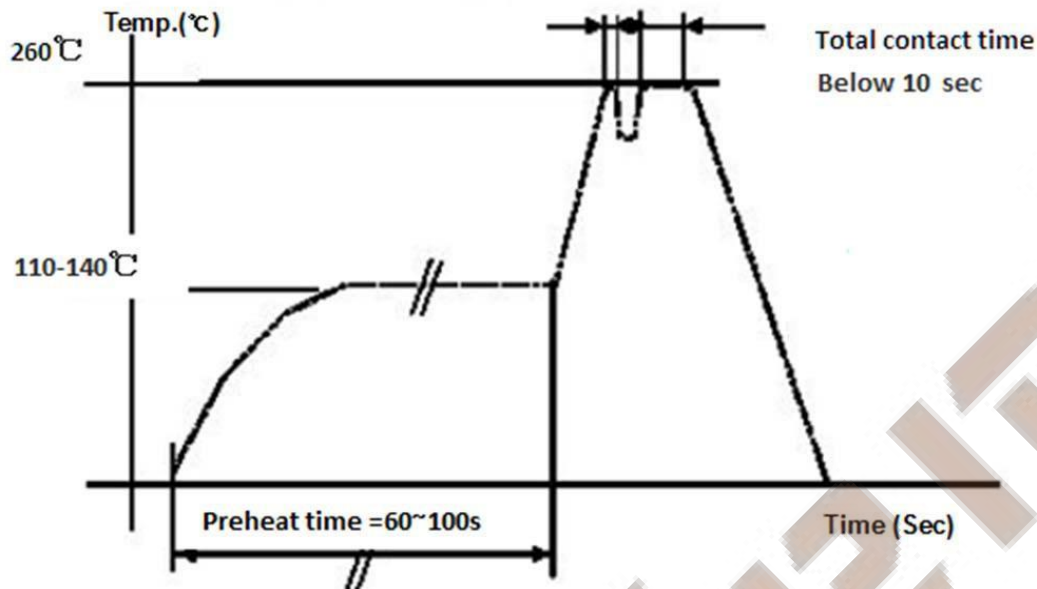
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

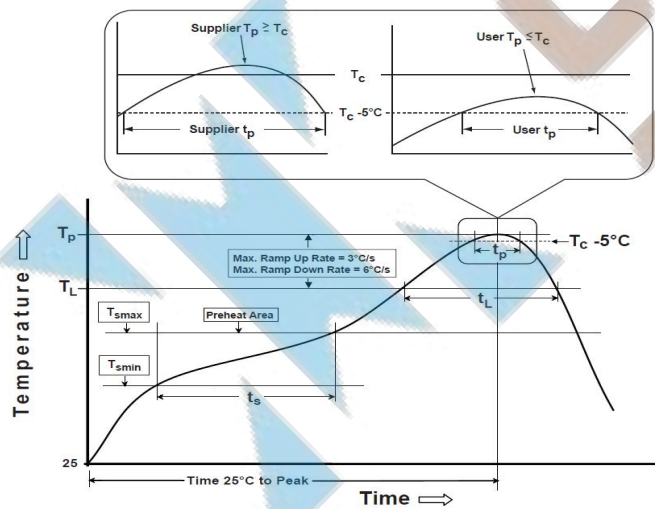
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT23	7'	178	3	210*208*203	45	440*400*230	180

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

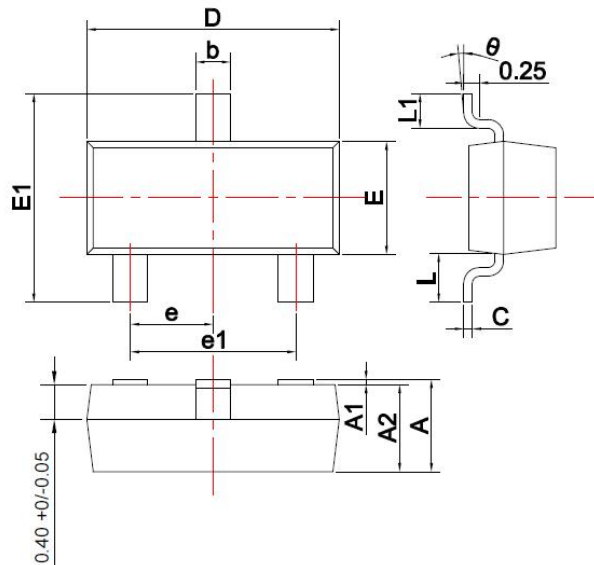


Preheat/Soak Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (t _s) from (T _{smin} to T _{smax})	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature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

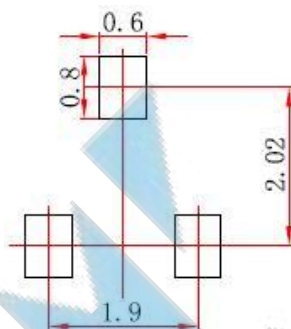
Package Mechanical Data



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

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