

General Description



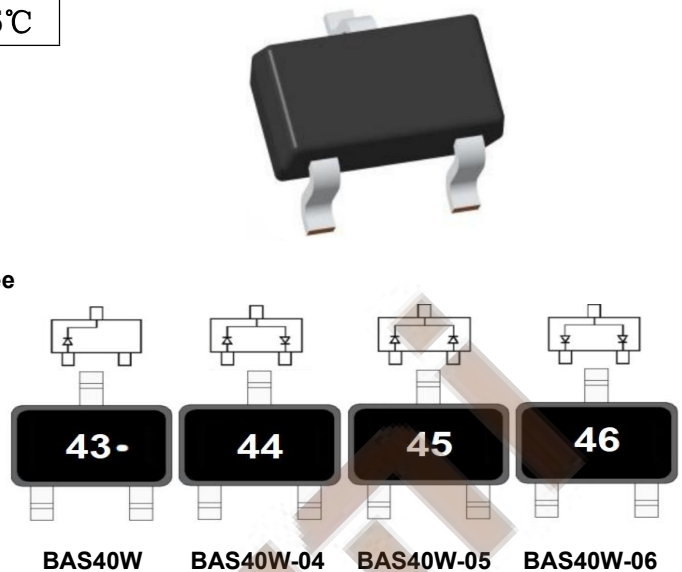
V_R	I_F	I_{FSM}	$V_{F_{max}}$	$T_{j_{max}}$
40V	200mA	600mA	1.0V@ $I_F=40mA$	125°C

Features

- SOT-323 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

Application

- Extreme fast switches
- Automotive



Package Marking and Ordering Information

Product ID	Package	Marking	Qty(PCS)
BAS40W	SOT-323	43-	3000
BAS40W-04	SOT-323	44	3000
BAS40W-05	SOT-323	45	3000
BAS40W-06	SOT-323	46	3000

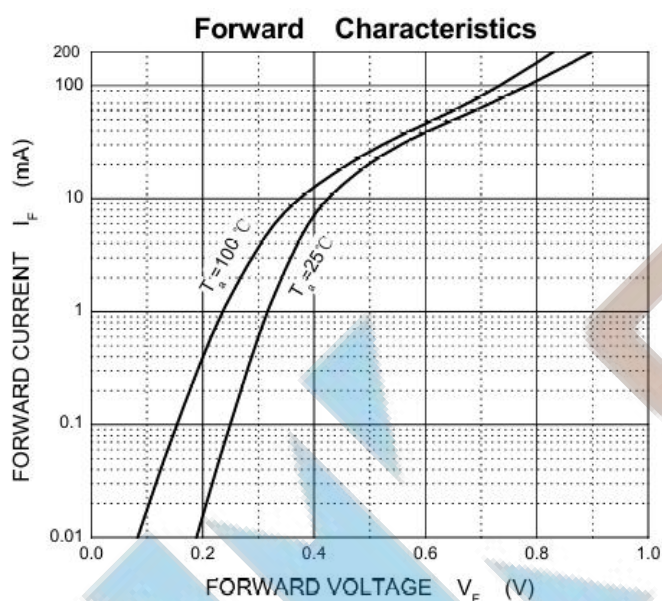
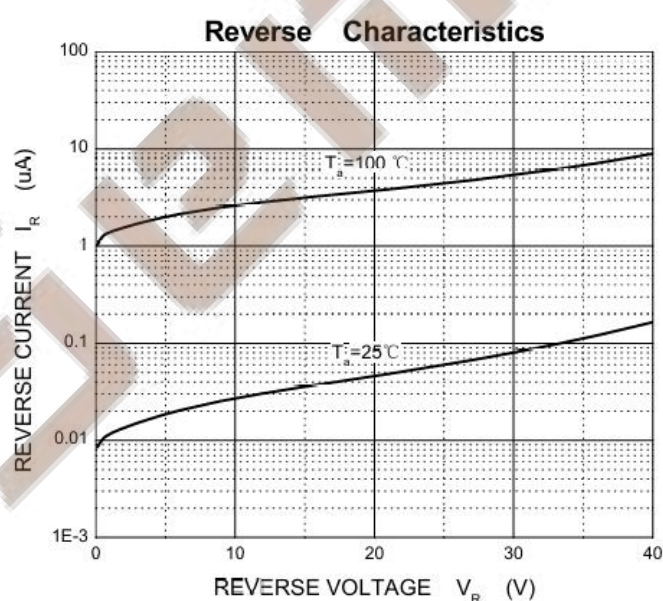
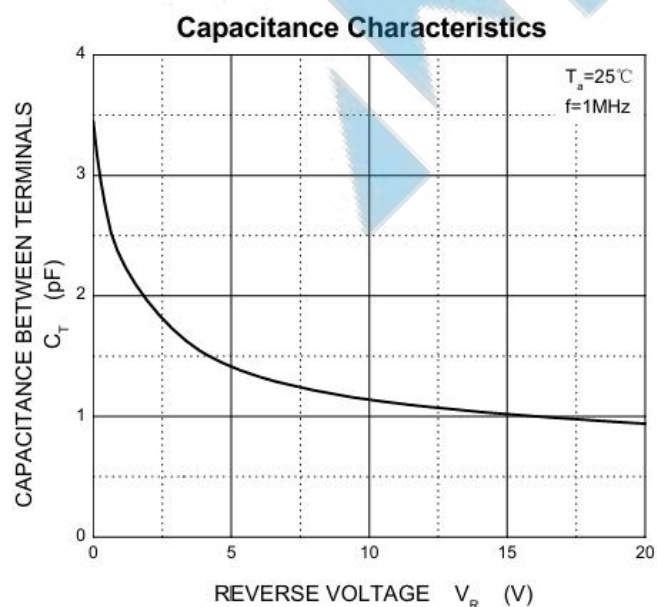
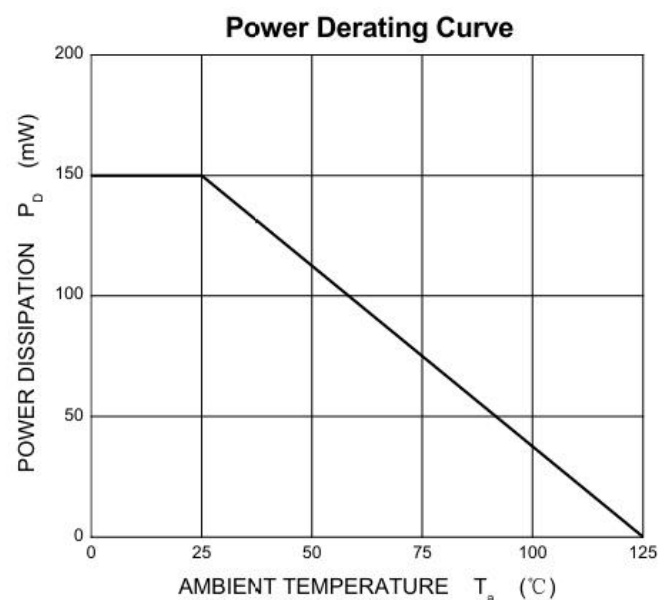
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbols	Value	Units
Peak repetitive peak reverse voltage	VRRM	40	V
Working peak reverse voltage	VRWM		
DC blocking voltage	VR		
Maximum average forward rectified current	IFM	200	mA
Non-repetitive Peak Forward Surge Current at t=1.0s	IFSM	600	mA
Power Dissipation	PD	150	mW
Typical thermal resistance	RθJA	667	°C/W
Junction Temperature	Tj	-40-+125	°C
Storage temperature range	TSTG	-50-+150	°C

Electrical Characteristics ($T_a=25^\circ\text{C}$, unless otherwise noted)

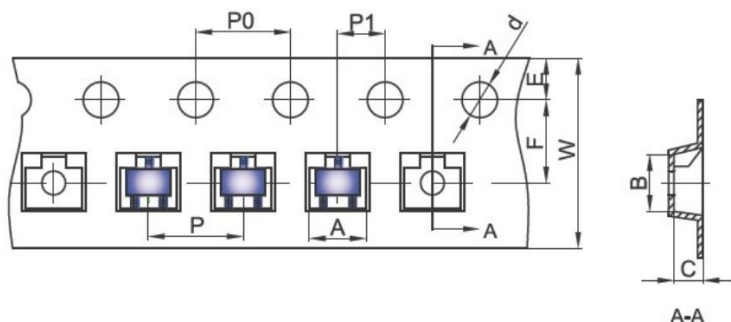
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Maximum forward voltage	VF1	IF = 1mA			380	mV
	VF2	IF = 40mA			1000	
Maximum reverse breakdown voltage	VR	IR=10uA	40			V
Maximum reverse current	IR	VR=30V			200	nA
Type junction capacitance	CD	VR = 0V, f = 1MHz			5	pF
Reverse Recovery time	trr	IF=IR=10mA Irr=1mA, RL=100Ω			5	ns

Typical Characteristics



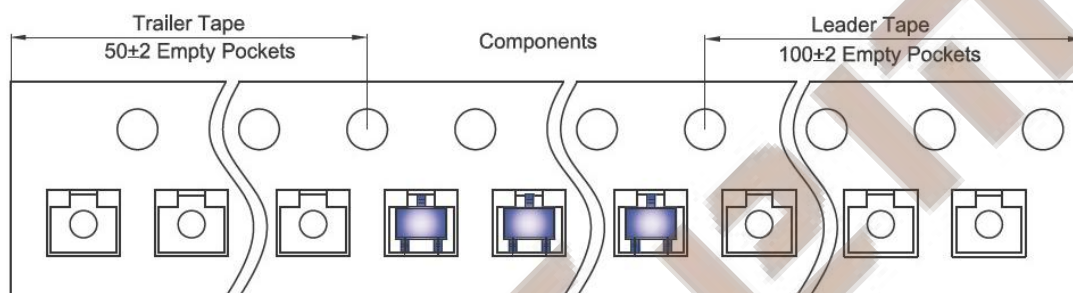
Package Information

Carrier Dimension(mm)

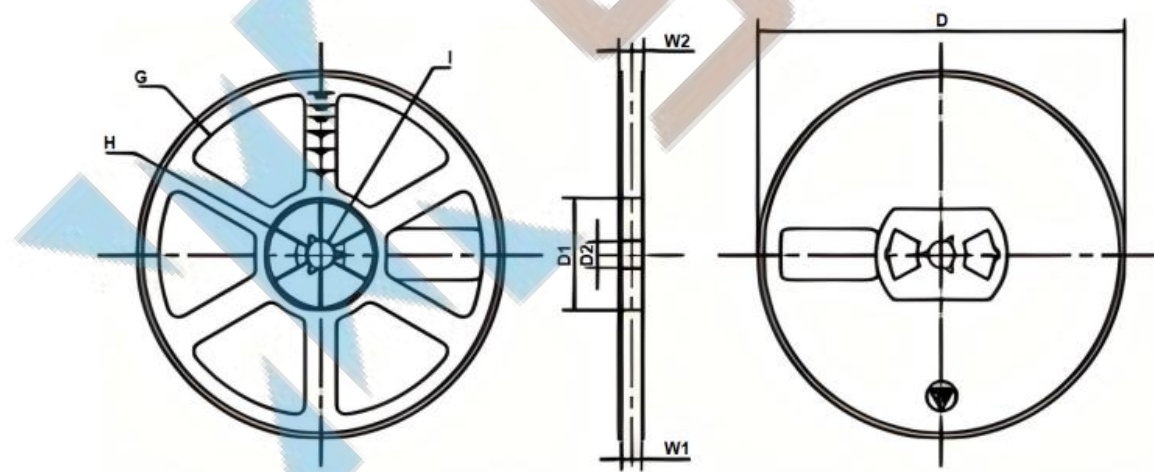


Dimensions are in millimeter

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)



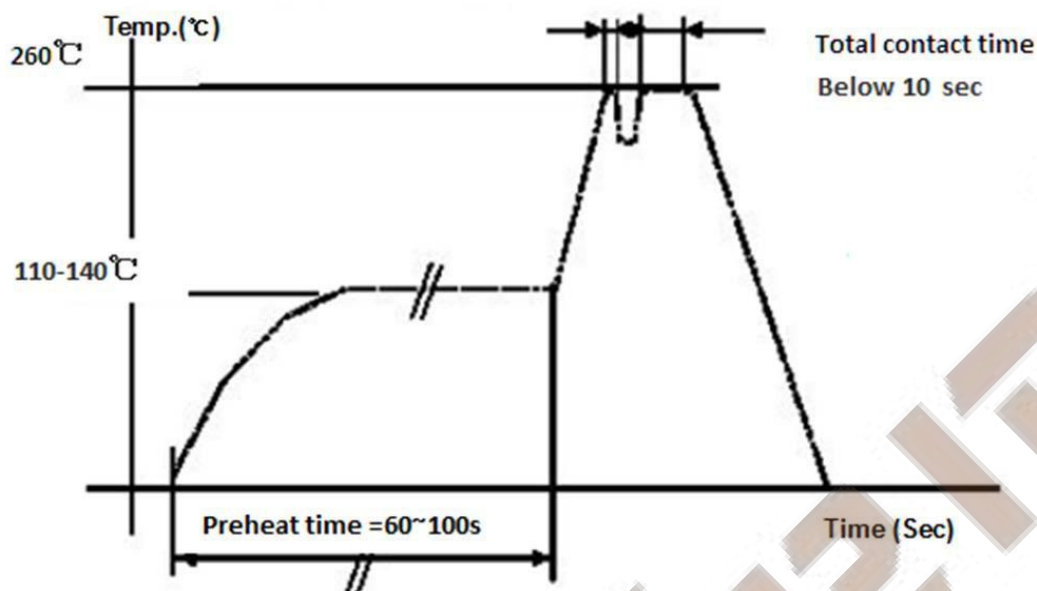
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

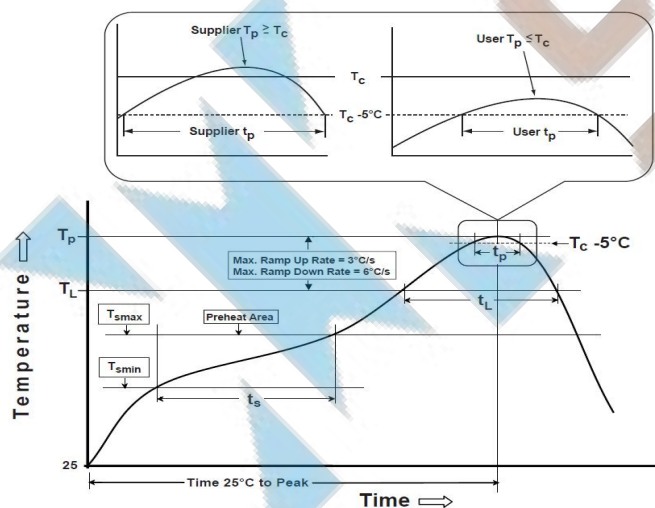
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT323	7'	178	3	210*208*203	45	440*400*230	180

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

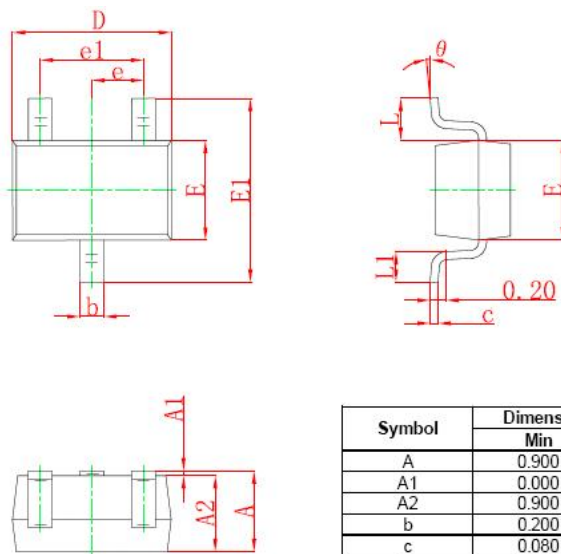


Preheat/Soak Temperature Min (Tsmin) Temperature Max (Tsmax) Time (ts) from (Tsmin to Tsmax)	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5°C
Time 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

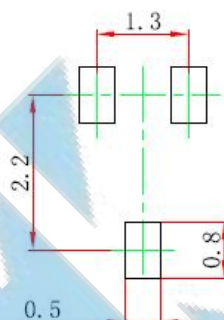
When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

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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