

## FEATURES

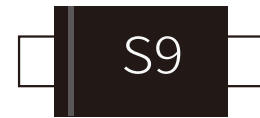
- | Low Forward Voltage Drop
- | Fast Switching Time
- | Surface Mount Package Ideally Suited for Automatic Insertion



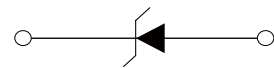
SOD-323

## MECHANICAL DATA

- | SOD-323 Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any



Marking



Schematic Symbol

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum DC Blocking Voltage	V <sub>R</sub>	100	V
Forward Continuous Current	I <sub>F</sub>	150	mA
Repetitive Peak Forward Current (Note 1) @ tp < 1.0s, Duty Cycle < 50%	I <sub>FRM</sub>	350	mA
Non-Repetitive Peak Forward Surge Current @ t=8.3ms	I <sub>FSM</sub>	750	mA
Power Dissipation	P <sub>D</sub>	200	mW
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	500	°C/W
Operating junction temperature	T <sub>J</sub>	125	°C
Storage temperature range	T <sub>STG</sub>	-55-+150	°C

## ELECTRICAL CHARACTERISTICS(T<sub>A</sub>=25°C )

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage(Note 2)	V <sub>F</sub>	I <sub>F</sub> =0.1mA			0.25	V
		I <sub>F</sub> =10mA			0.45	V
		I <sub>F</sub> =250mA			1	V
Reverse Breakdown Voltage(Note 2)	V <sub>(BR)</sub>	I <sub>R</sub> =100μA	100			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =1.5V			0.3	μA
		V <sub>R</sub> =10V			0.5	μA
		V <sub>R</sub> =50V			1	μA
		V <sub>R</sub> =75V			2	μA
Capacitance Between Terminals	C <sub>T</sub>	V <sub>R</sub> =0V, f=1.0MHz		20		pF
		V <sub>R</sub> =1V, f=1.0MHz		12		pF

Notes: 1. Part mounted on FR-4 board with recommended pad layout.  
 2. Short duration pulse test used to minimize self-heating effect.

## CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

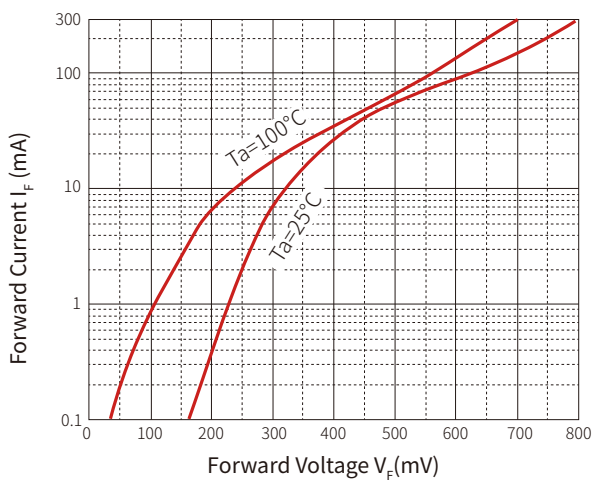
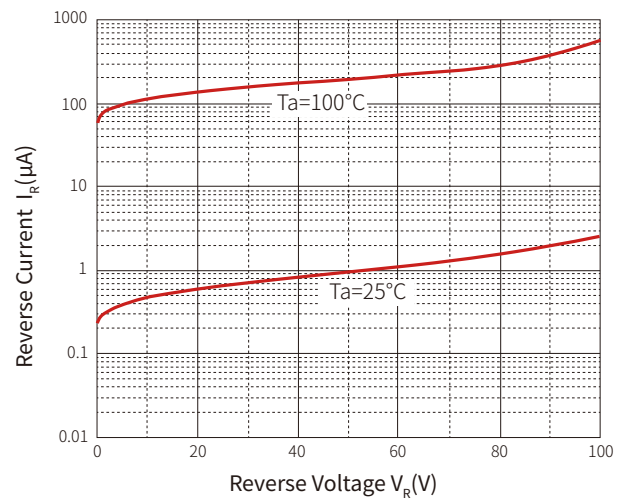
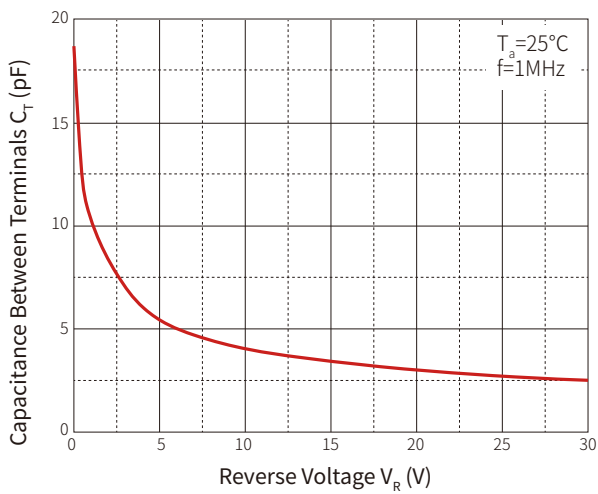
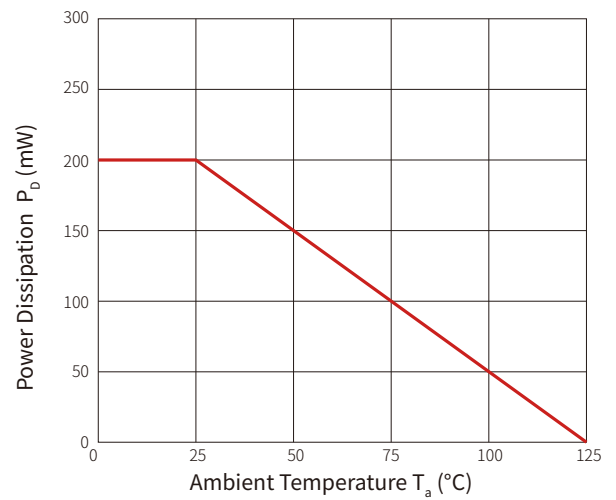


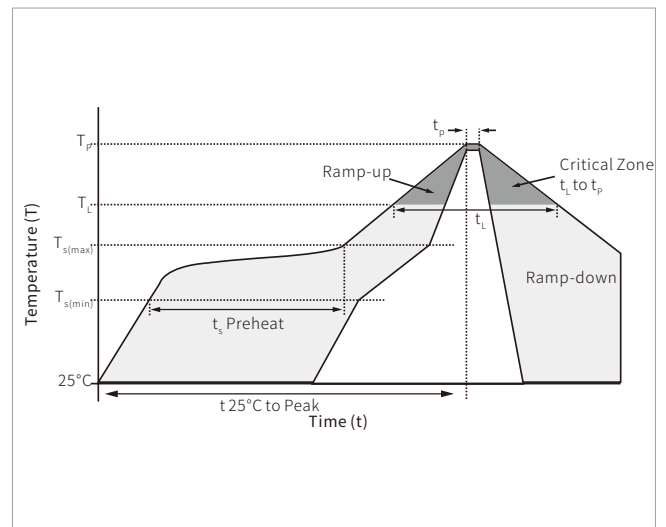
Fig.2 Reverse Characteristics



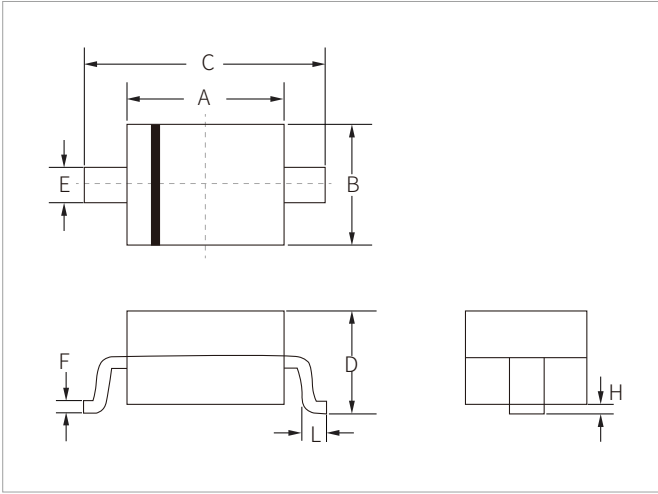
**Fig.3 Capacitance Characteristics**

**Fig.4 Power Derating Curve**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(\text{min})}$ )	150 $^\circ\text{C}$
	Temperature Max ( $T_{s(\text{max})}$ )	200 $^\circ\text{C}$
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3 $^\circ\text{C}/\text{second}$ max
$T_{s(\text{max})}$ to $T_L$ - Ramp-up Rate		3 $^\circ\text{C}/\text{second}$ max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217 $^\circ\text{C}$
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260 $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6 $^\circ\text{C}/\text{second}$ max
Time 25 $^\circ\text{C}$ to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260 $^\circ\text{C}$

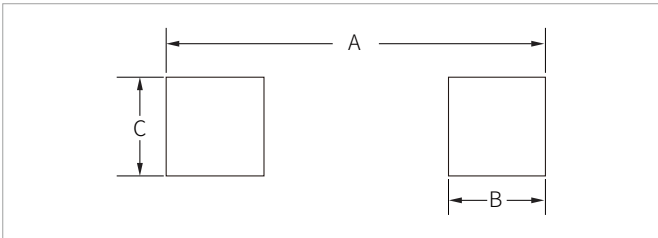


## SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.75	0.093	0.108
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	0.40	0.008	0.016

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAT46WS	SOD-323	3000PCS	7"

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