

## FEATURES

- | High Breakdown Voltage
- | Low Turn-on Voltage



SOD-123

## MECHANICAL DATA

- | SOD-123 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
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	100	V
Maximum Average Forward Rectified Current	I <sub>FM</sub>	350	mA
Peak Forward Surge Current 8.3ms Single Half Sine-Wave	I <sub>FSM</sub>	750	mA
Power Dissipation	P <sub>D</sub>	500	mW
Thermal Resistance Junction to Ambient Air	R <sub>θJA</sub>	200	°C/W
Operating Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature Range	T <sub>STG</sub>	-50-+150	°C

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Maximum Reverse Current	I <sub>R</sub>	V <sub>R1</sub> =1.5V			0.3	μA
		V <sub>R2</sub> =10V			0.5	
		V <sub>R3</sub> =50V			1	
		V <sub>R4</sub> =75V			2	
Maximum Reverse Breakdown Voltage	V <sub>R</sub>	I <sub>R</sub> =100μA	100			V
Maximum Forward Voltage	V <sub>F</sub>	I <sub>F1</sub> =0.1mA			250	mV
		I <sub>F2</sub> =10mA			450	
		I <sub>F3</sub> =250mA			1000	
Type Junction Capacitance	C <sub>T</sub>	V <sub>R</sub> =0V, f=1MHz		20		pF
		V <sub>R</sub> =1V, f=1MHz		12		

## CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

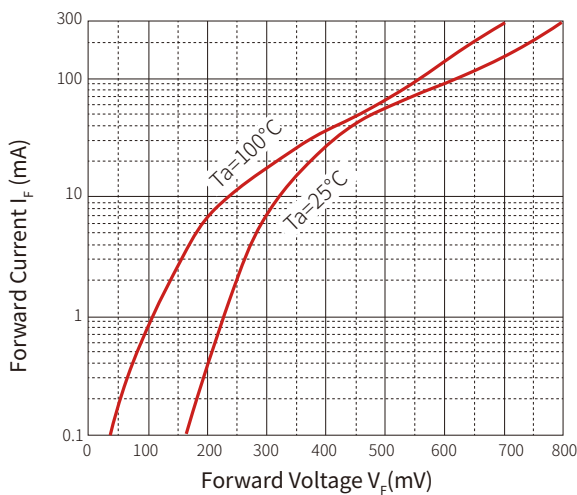
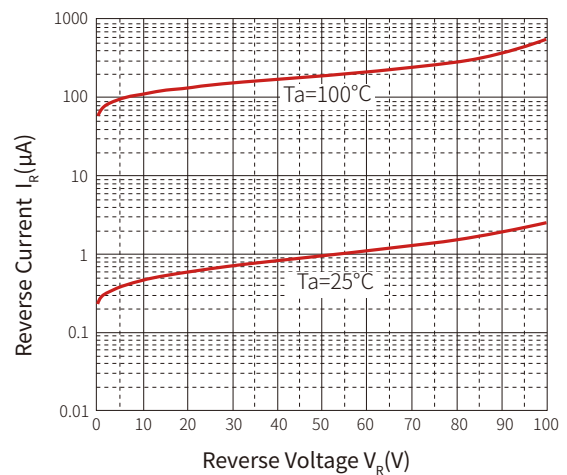
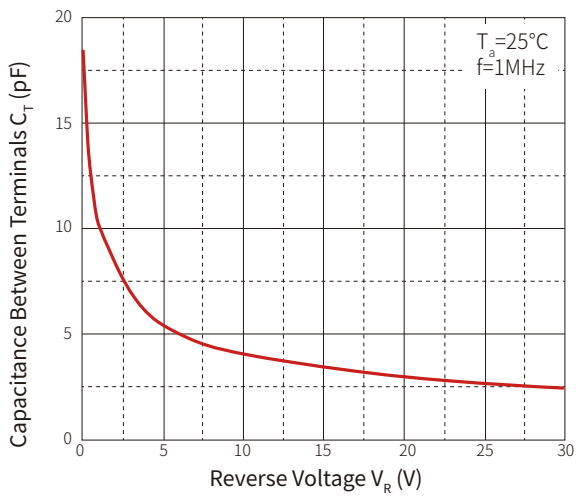
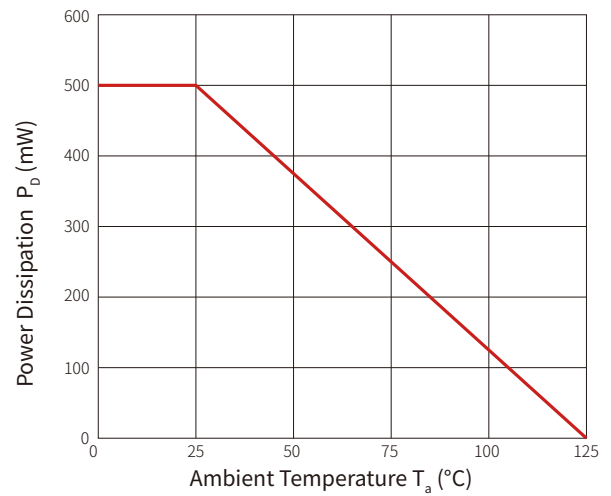


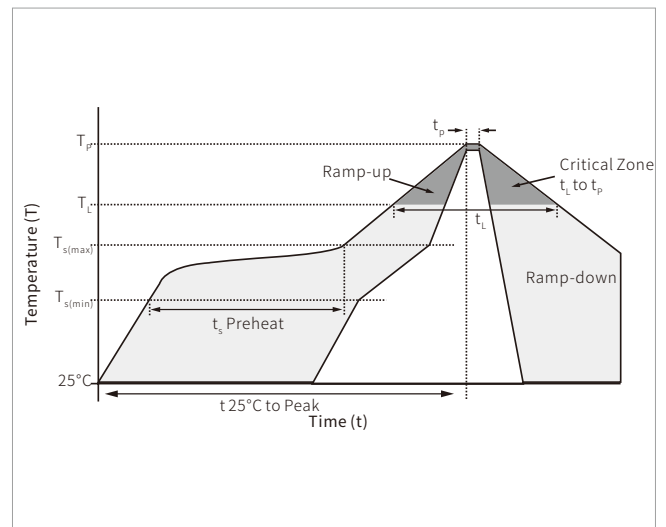
Fig.2 Reverse Characteristics



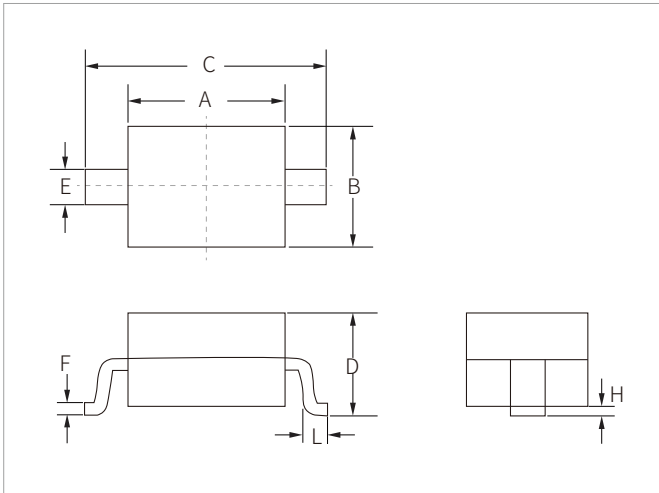
**Fig.3 Capacitance Characteristics**

**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 $^\circ\text{C}$

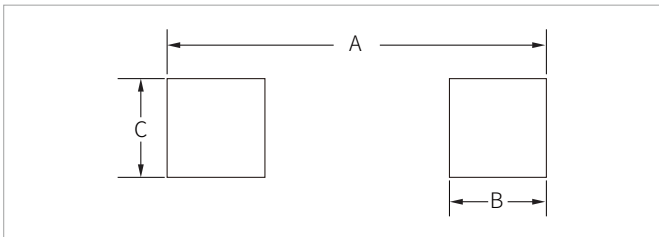


## SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.08	0.15	0.003	0.006
H	0.00	0.10	0.000	0.004
L	0.25	0.45	0.010	0.018

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.30	0.157	0.169
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAT46W	SOD-123	3000PCS	7"

**Headquarters**

No.3387 Shendu Road  
Pujiang I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

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