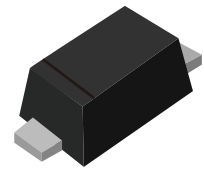
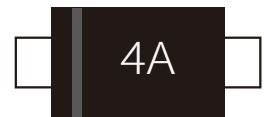


## FEATURES

- | Low Forward Voltage Drop
- | Cathode Band / Device marking
- | Surface Mount Package Ideally Suited for Automatic Insertion



SOD-523



Marking



Schematic Symbol

## MECHANICAL DATA

- | Encapsulation: SOD-523 Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any

## APPROVALS

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

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	40	V
Average Forward Rectified Current	$I_{F(AV)}$	1	A
Non-Repetitive Peak Forward Surge Current ( @t=8..3ms )	$I_{FSM}$	6	A
Operating junction temperature range	$T_J$	125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-50 to 125	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	$V_{BR}$	$I_R=0.5\text{mA}$	40			V
Reverse current	$I_R$	$V_R=40\text{V}$			100	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=0.3\text{mA}$			0.5	V
		$I_F=1\text{A}$			0.68	
Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$			100	pF

## CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

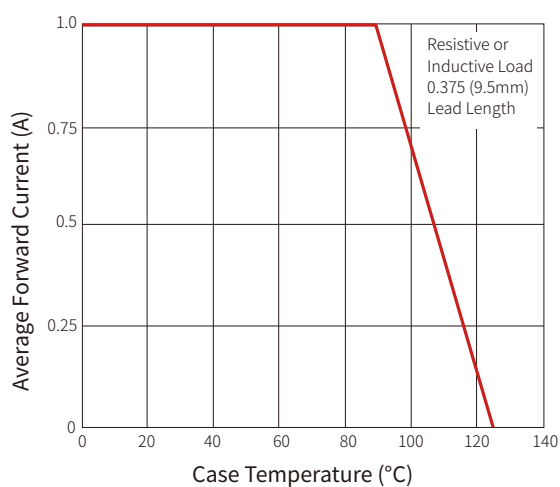
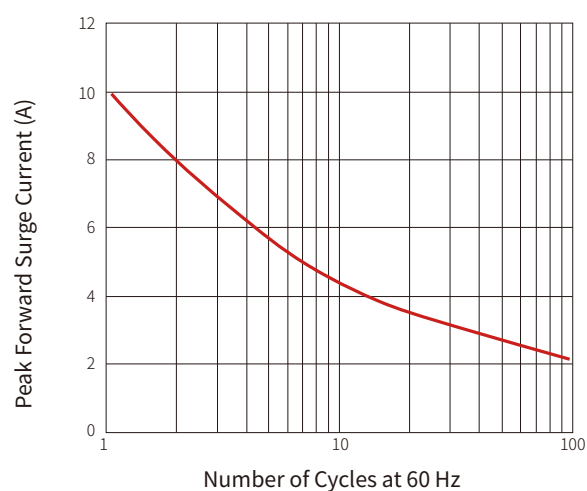
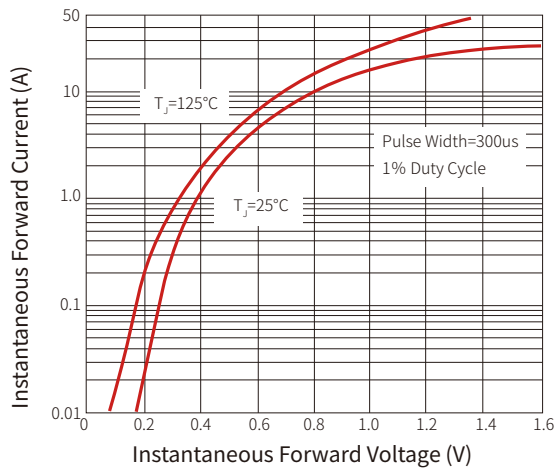
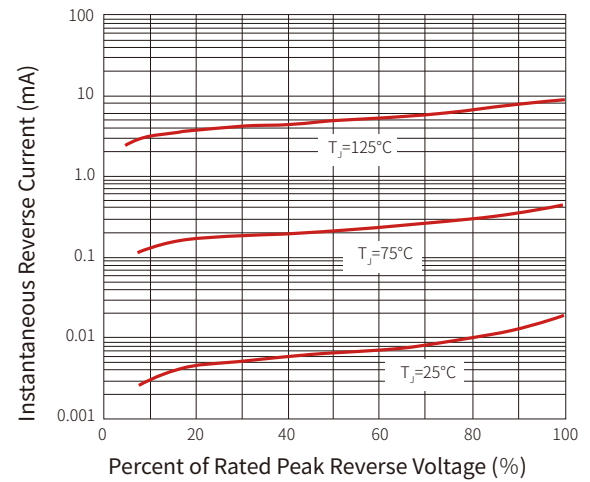
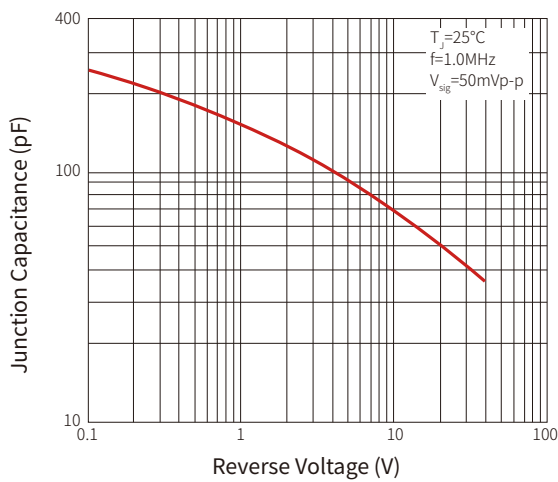
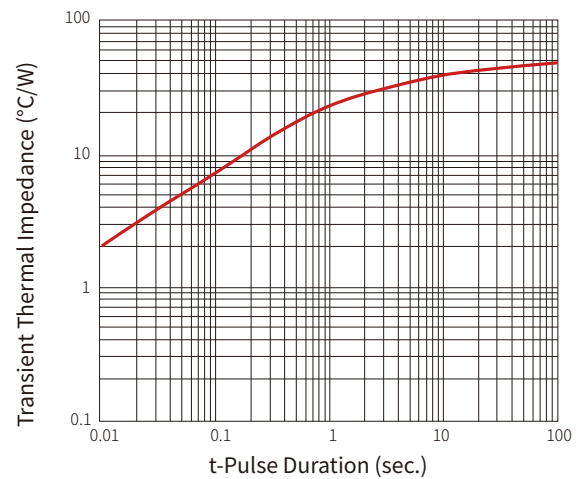


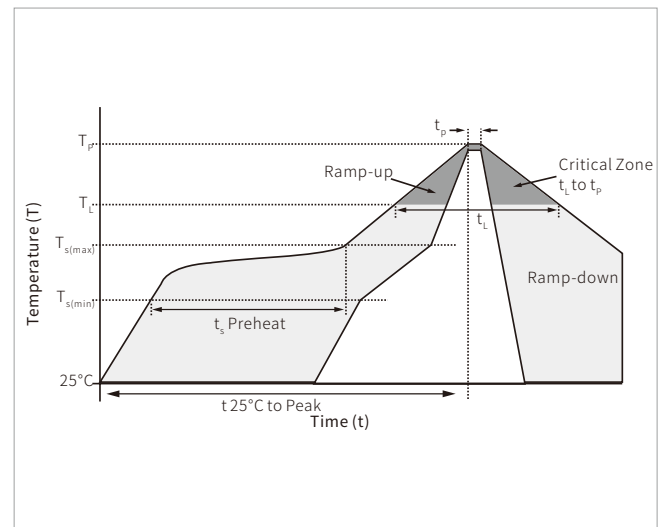
Fig.2 Maximum Non-Repetitive Peak Forward Surge Current



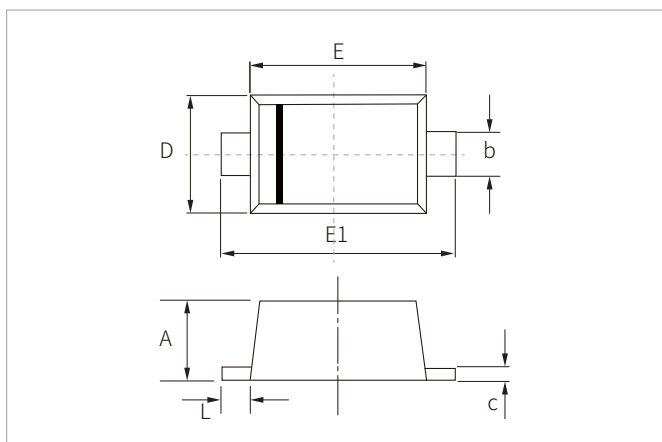
**Fig.3 Typical Instantaneous Forward Characteristics**

**Fig.4 Typical Reverse Characteristics**

**Fig.5 Typical Junction Capacitance**

**Fig.6 Typical Transient Thermal Impedance**


## SOLDERING PARAMETERS

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

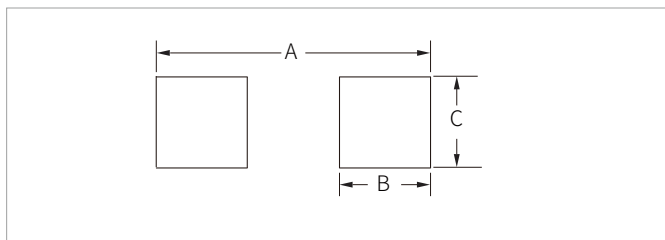


## SOD-523 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.50	0.80	0.020	0.031
b	0.25	0.35	0.010	0.014
c	0.07	0.20	0.003	0.008
D	0.70	0.90	0.028	0.035
E	1.10	1.30	0.043	0.051
E1	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Min.	Min.
A	2.00	0.0787
B	0.60	0.0236
C	0.70	0.0276

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
1N5819WT	SOD-523	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)

**By QR Code**

Website



Wechat

To find your local partner within Semiware's global website: [www.semiware.com](http://www.semiware.com)

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.