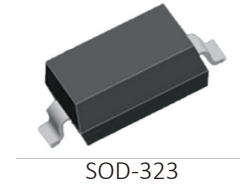


## FEATURES

For use in low voltage, high frequency inverters Free wheeling, and polarity protection applications

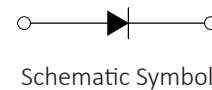


## MECHANICAL DATA

Encapsulation: SOD-323 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<sub>A</sub> = 25°C )

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	700	
Maximum DC blocking voltage	V <sub>DC</sub>	1000	
Maximum average forward rectified current at T <sub>L</sub> = 90°C	I <sub>F(AV)</sub>	1.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	10	
Thermal resistance from junction to lead <sup>(1)</sup>	R <sub>θJL</sub>	35	°C/W
Operating junction range	T <sub>J</sub>	-55 to 125	°C
storage temperature range	T <sub>STG</sub>	-55 to 125	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Instantaneous forward voltage	$V_F$	$I_F=0.5\text{A}$		0.95		V	
		$I_F=1\text{A}^{(2)}$		1	1.15		
Reverse current	$I_R$	$V_R=V_{DC}$	$T_A=25^\circ\text{C}$			5	$\mu\text{A}$
			$T_A=125^\circ\text{C}$			50	

## CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

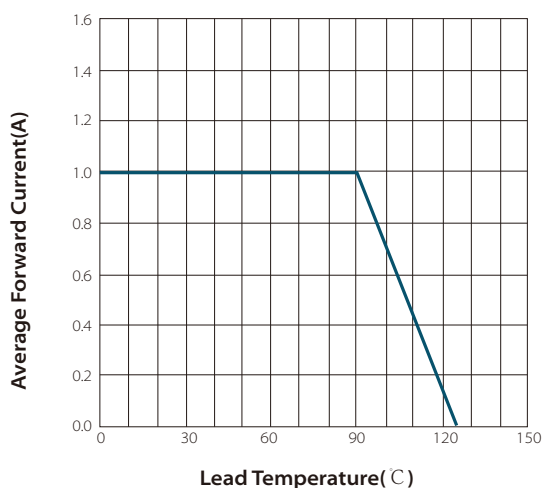


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

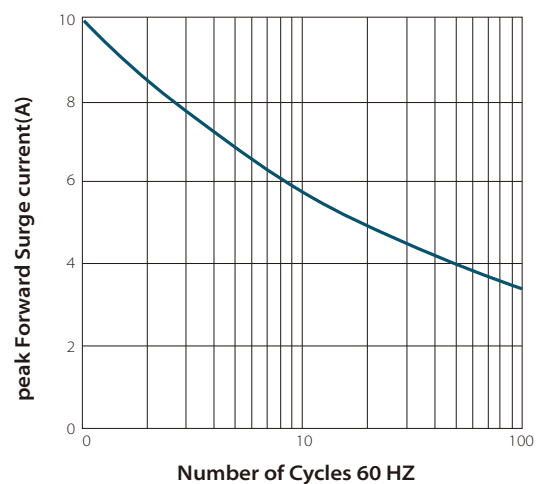


Fig.3 Typical Instantaneous Forward Characteristics

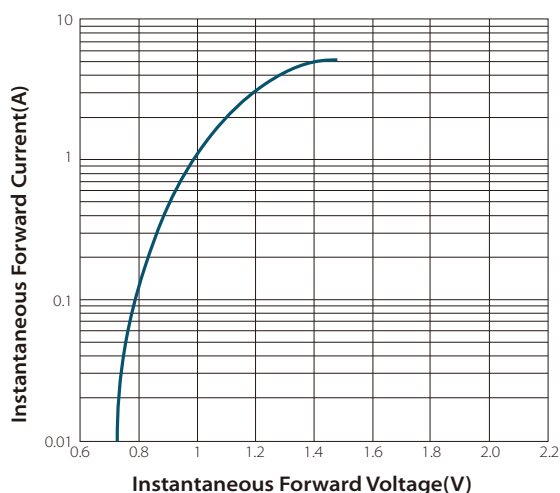
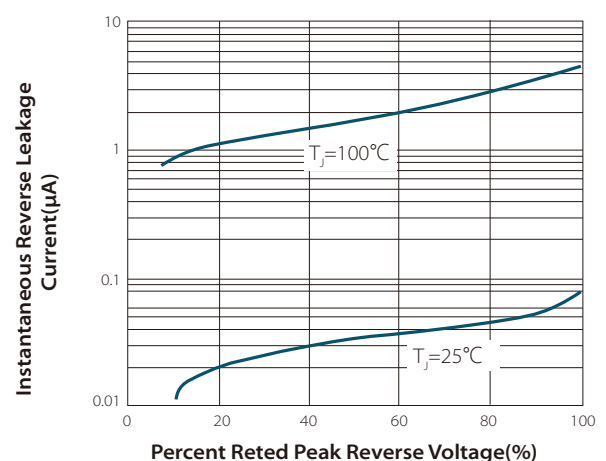
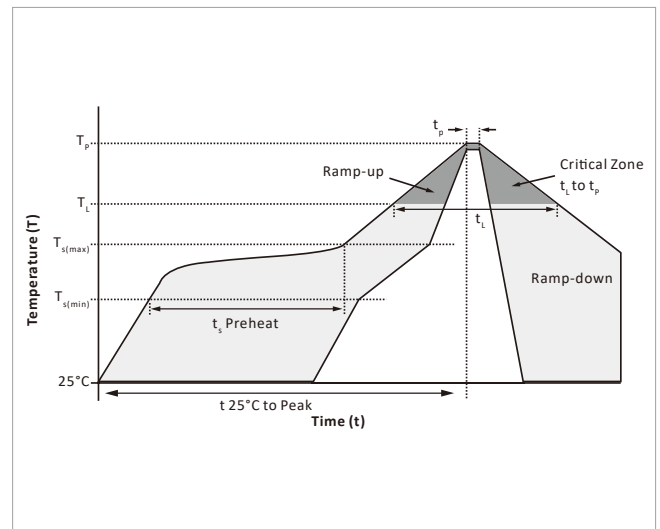


Fig.4 Typical Reverse Leakage Characteristics

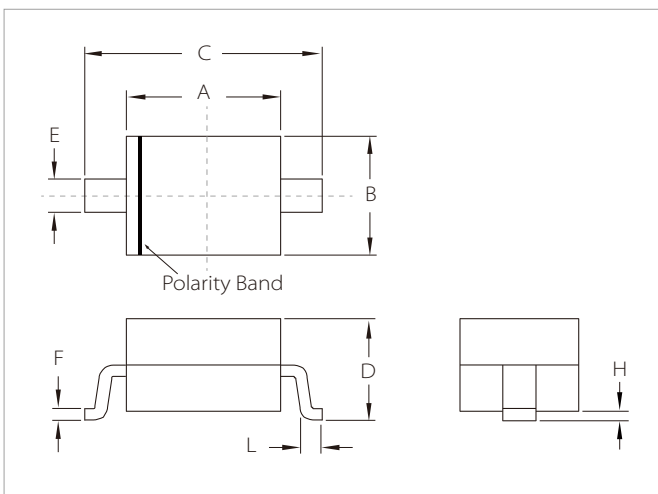


## SOLDERING PARAMETERS

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) ( $t_p$ )	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

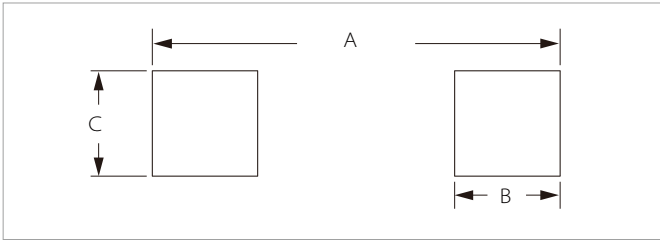


## SOD-323 PACKAGE INFORMATION



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	2.39	2.70	0.094	0.106
D	0.80	1.10	0.031	0.042
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	-	0.008	-

## 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
1N4007WS	SOD-323	3000PCS	7"

To find your local partner within Semiwell's website : [www.semiwell.com.cn](http://www.semiwell.com.cn)

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