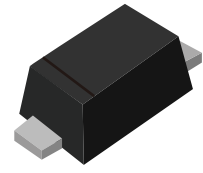


## FEATURES

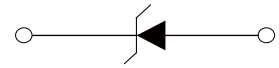
- | Fast Switching Device (TRR <4.0 nS)
- | Power Dissipation of 150mW
- | High Stability and High Reliability
- | Low reverse leakage



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
Reverse Voltage	$V_R$	75	V
Peak Reverse Voltage	$V_{RM}$	100	V
Power Dissipation	$P_d$	150	mW
Working Inverse Voltage	$W_{IV}$	75	V
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Average Rectified Current	$I_o$	150	mA
Non-repetitive Peak Forward Current	$I_{FM}$	300	mA
Peak Forward Surge Current @ $t_p=1\mu\text{s}; T_a=25^{\circ}\text{C}$	$I_{FSM}$	2.0	A
Operating Junction Temperature Range	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Breakdown Voltage	$B_V$	$I_R=100\mu\text{A}$	100			V
		$I_R=5\mu\text{A}$	75			V
Reverse Leakage Current	$I_R$	$V_R=20\text{V}$			25	nA
		$V_R=75\text{V}$			1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=1.0\text{mA}$			0.715	V
		$I_F=10\text{mA}$			0.855	V
		$I_F=50\text{mA}$			1.00	V
		$I_F=150\text{mA}$			1.25	V
Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$			2	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA}$ , $R_L=100\Omega$ , $I_{RR}=0.1\times I_R$			4	nS

## CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

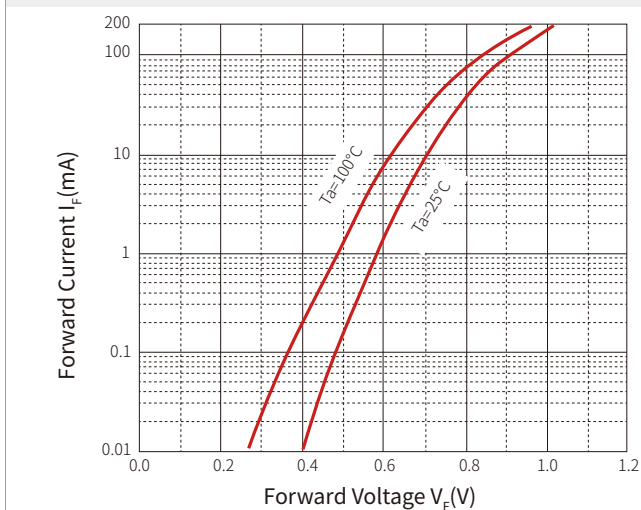
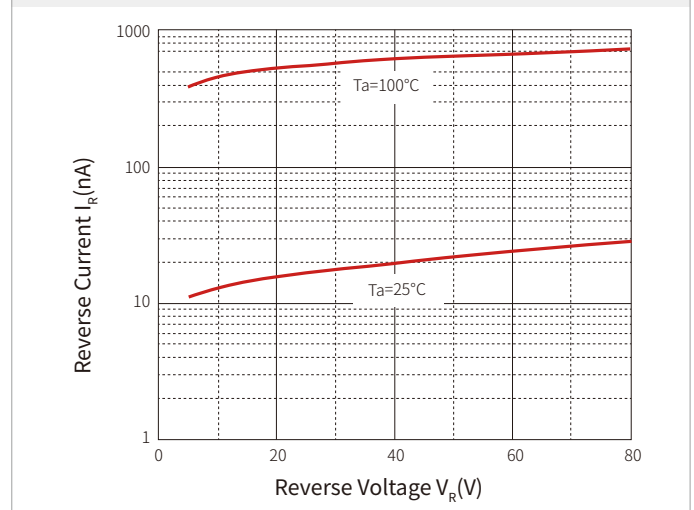
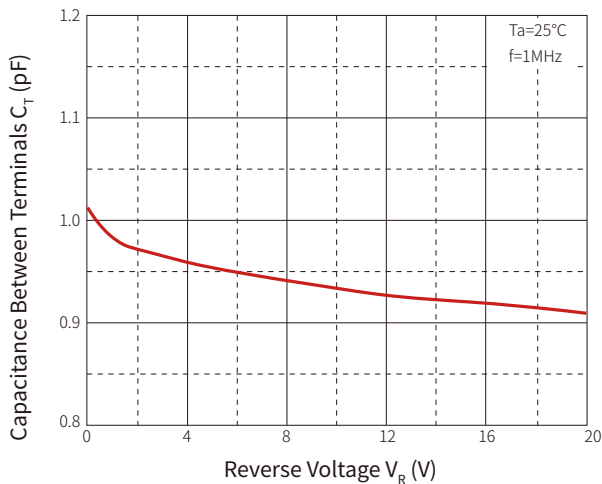
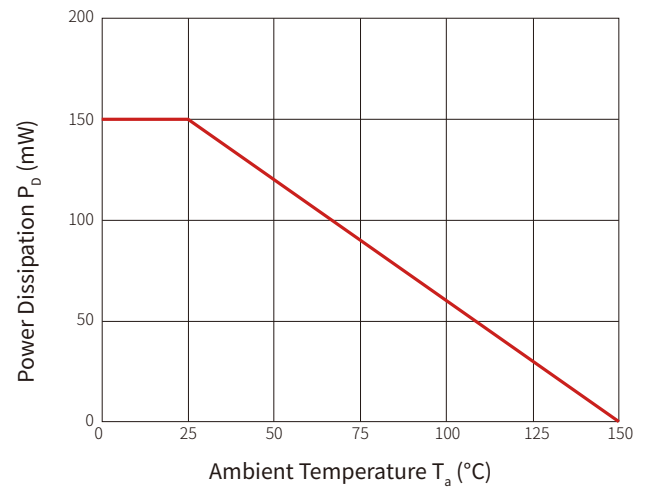


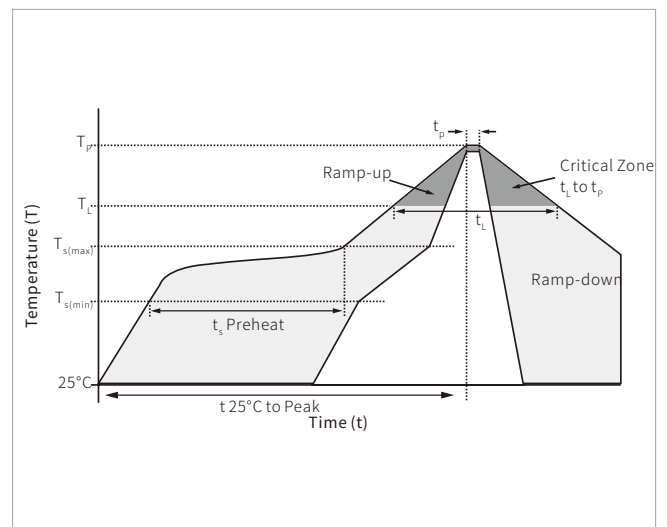
Fig.2 Reverse Characteristics



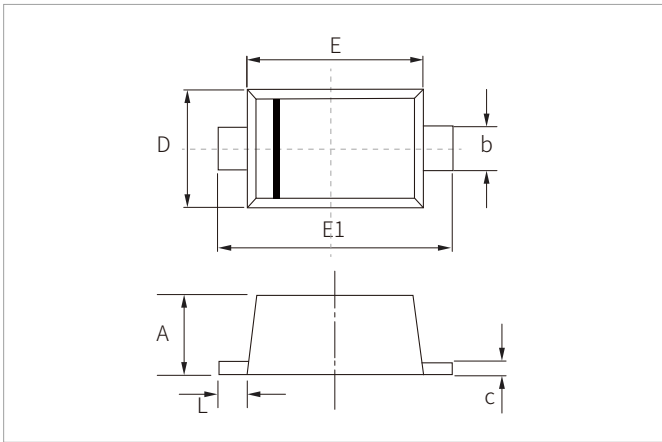
**Fig.3 Capacitance Characteristics**

**Fig.4 Power Derating Curve**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(\min)}$ )	150 $^\circ\text{C}$
	Temperature Max ( $T_{s(\max)}$ )	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
$T_{s(\max)}$ 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 $^\circ\text{C}$

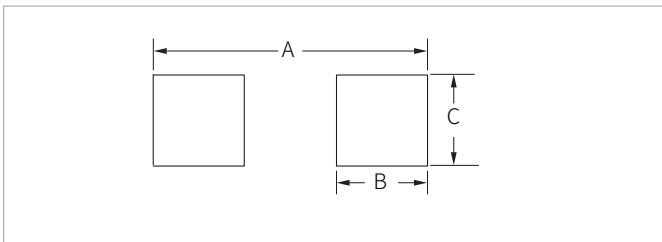


## SOD-523 PACKAGE INFORMATION



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
1N4148WT	SOD-523	3000PCS	7"

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Wechat

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