

## FEATURES

- | Small Package

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- | Low Reverse Current

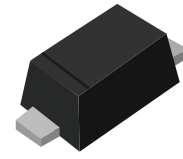
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- | Fast Switching Speed

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- | Flat Lead Surface Mount Device

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SOD-523

## MECHANICAL DATA

- | SOD-523 Small Outline Plastic Package

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- | Polarity: Color band denotes cathode end

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- | Mounting Position: Any

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## 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
Reverse Voltage	V <sub>R</sub>	75	V
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Power Dissipation	P <sub>d</sub>	150	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	833	°C/W
Average Rectified Current	I <sub>O</sub>	250	mA
Non-repetitive Peak Forward Current	I <sub>FM</sub>	500	mA
Peak Forward Surge Current @tp=1us; T <sub>A</sub> =25°C	I <sub>FSM</sub>	2.0	A
Operating junction temperature range	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>STG</sub>	-55 to 150	°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			nA
Reverse Leakage Current	$I_R$	$V_R=20\text{V}$			25	$\mu\text{A}$
		$V_R=75\text{V}$			1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=5\text{mA}$			0.715	V
		$I_F=10\text{mA}$			0.855	V
		$I_F=100\text{mA}$			1.00	V
		$I_F=150\text{mA}$			1.25	V
Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$			4	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

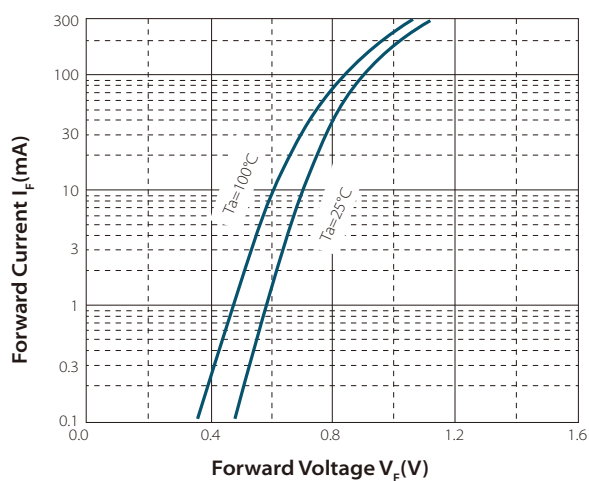
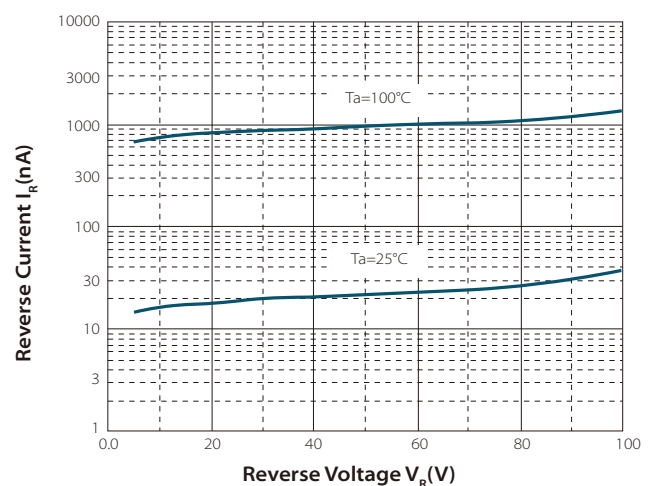
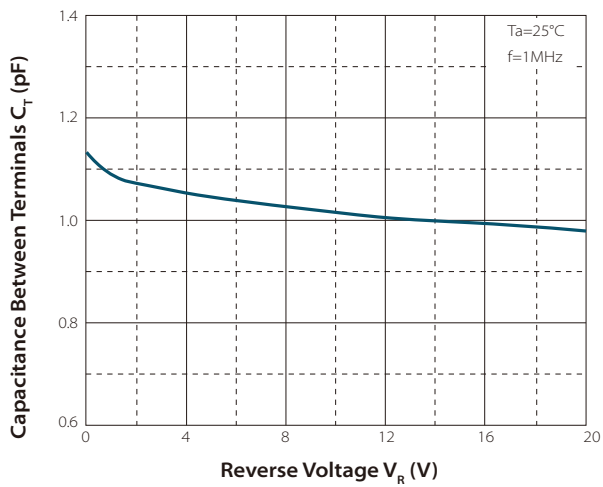
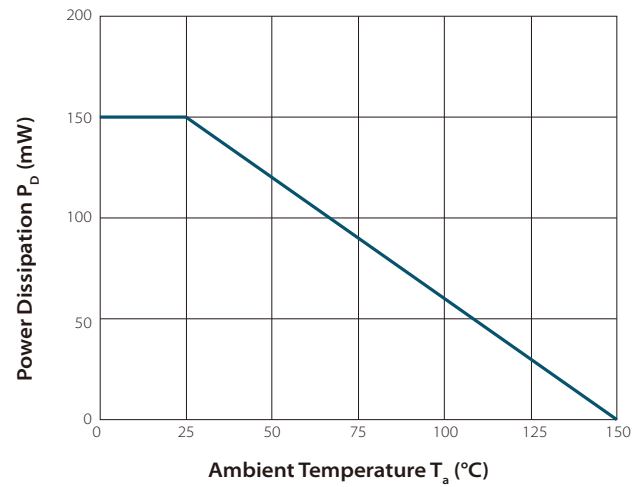


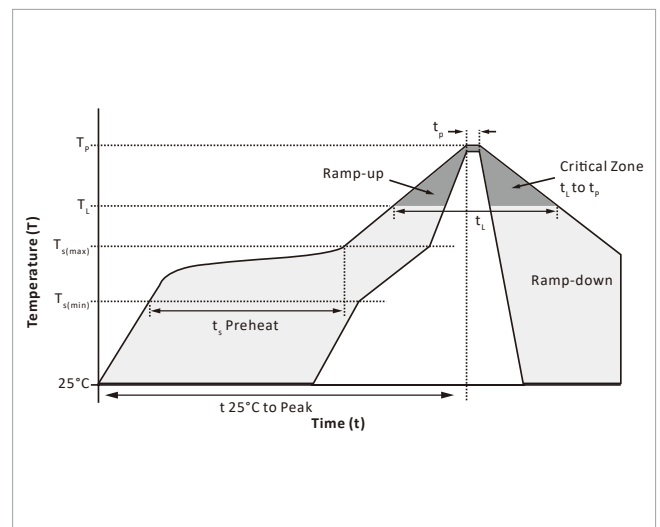
Fig.2 Reverse Characteristics



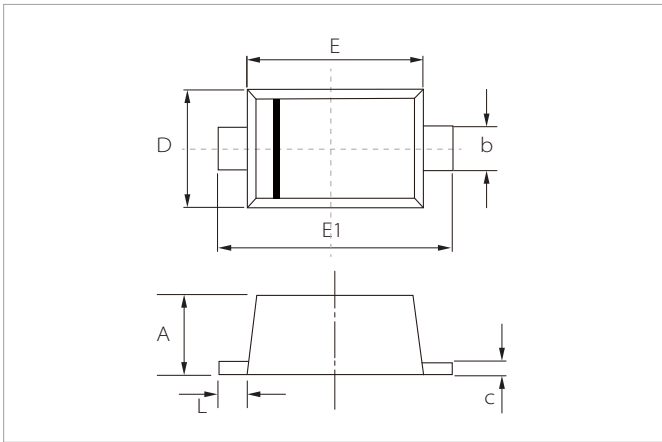
**Fig.3 Capacitance Characteristics**

**Fig.4 Power Derating Curve**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°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) ( $t_r$ )	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

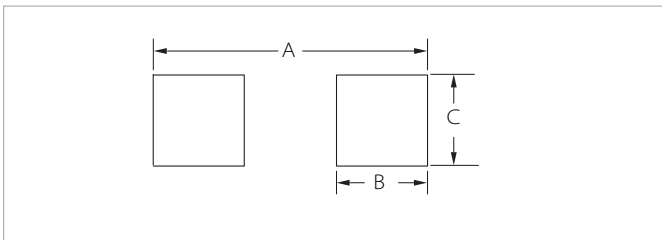


## SOD-523 PACKAGE INFORMATION



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	Marking	Component Package	QTY/Reel	Reel Size
1N4448WT	T5	SOD-523	3000PCS	7"

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