

## FEATURES

- | High Current Capability

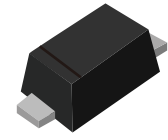
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- | Low Forward Voltage Drop

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- | High Speed Switching

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SOD-523

## MECHANICAL DATA

- | SOD-523 Small Outline Plastic Package

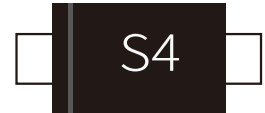
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- | Polarity: Color band denotes cathode end

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- | Mounting Position: Any

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Marking



Schematic Symbol

## APPROVALS

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

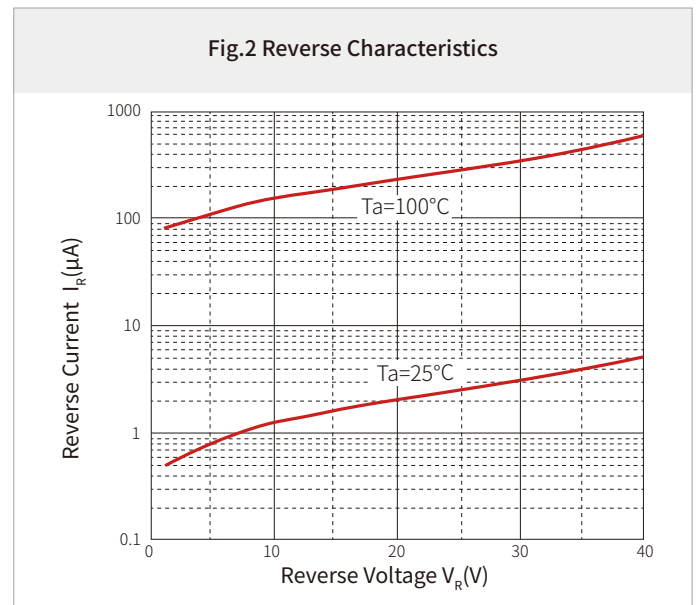
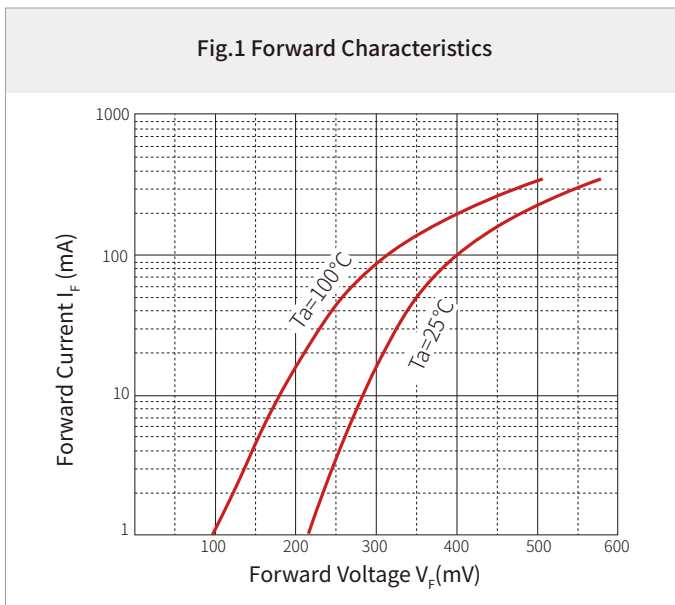
## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

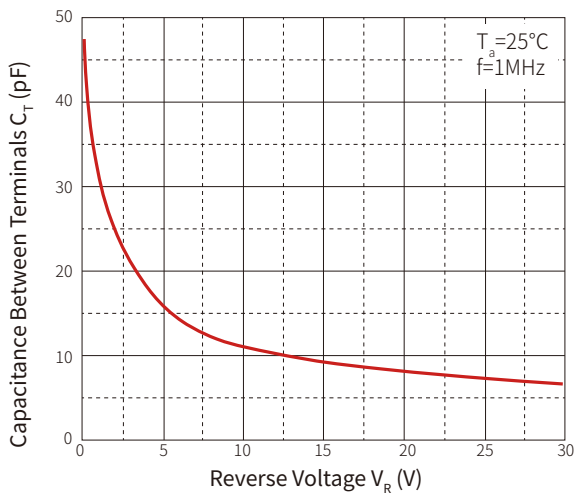
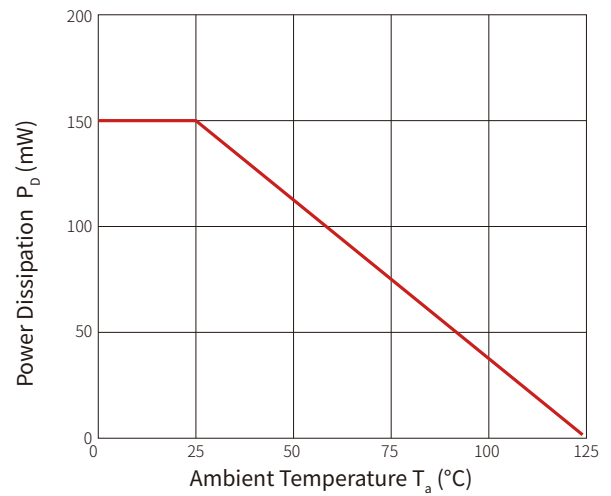
Parameter	Symbol	Value	Unit
Dc Blocking Voltage	$V_R$	10	V
Continuous Forward Current	$I_O$	100	mA
Peak Forward Current	$I_{FM}$	200	mA
Peak Forward Surge Current 8.3 Ms Single Half Sine-Wave	$I_{FSM}$	1	A
Power Dissipation	$P_D$	150	mW
Typical Thermal Resistance	$R_{\theta JA}$	667	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	$T_J$	125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-50+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Maximum Forward Voltage	$V_F$	$I_F=1\text{mA}$			0.28	V
		$I_F=5\text{mA}$			0.32	V
		$I_F=100\text{mA}$			0.50	V
Maximum Reverse Breakdown Voltage	$V_R$	$I_R=100\mu\text{A}$	10			V
Maximum Reverse Current	$I_R$	$V_R=10\text{V}$			20	$\mu\text{A}$
Total Capacitance	$C_{\text{tot}}$	$V_R=0\text{V}, f=1\text{MHz}$			50	pF

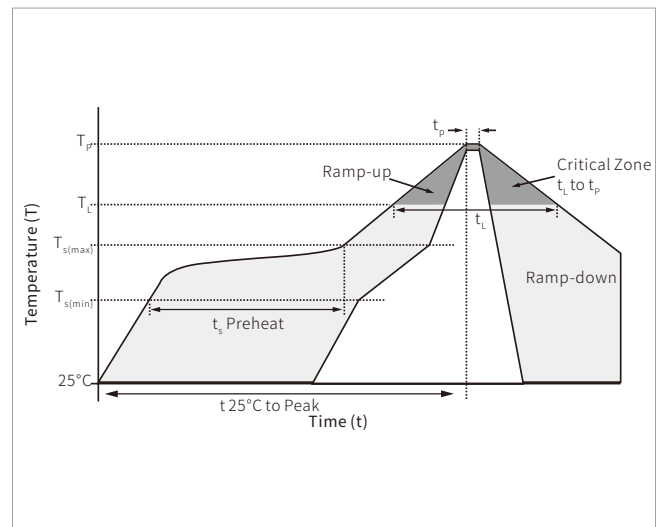
## CHARACTERISTIC CURVES



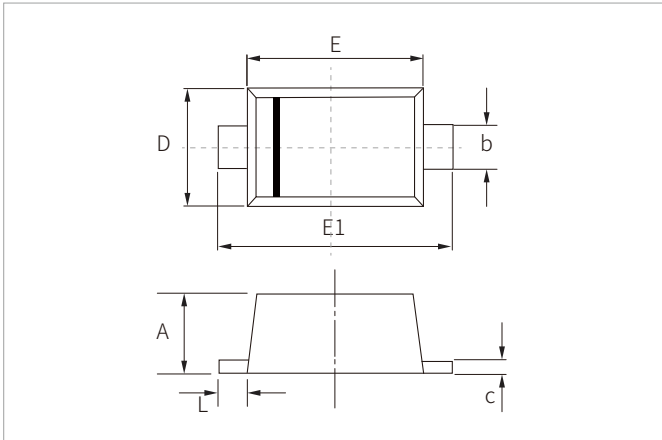
**Fig.3 Capacitance Characteristics**

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

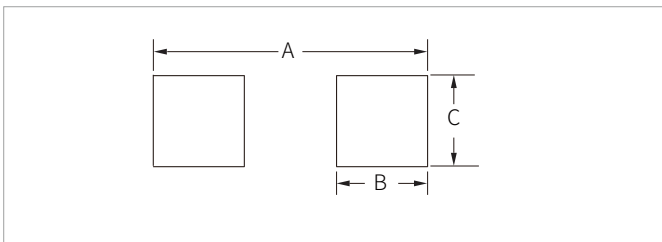


## SOD-523 PACKAGE INFORMATION



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
1SS389	SOD-523	3000PCS	7"

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