

## FEATURES

- | For surface mounted applications
- | Low profile package
- | Glass Passivated Chip Junction
- | Ideal for automated placement



SOD-123FL



Schematic Symbol

## MECHANICAL DATA

- | Case: SOD-123FL
- | Terminals: Solderable per MIL-STD-750, Method 2026

## APPROVALS

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

## MAXIMUM RATINGS AND CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	1N4001W	1N4002W	1N4003W	1N4004W	1N4005W	1N4006W	1N4007W	Unit
Marking		A1	A2	A3	A4	A5	A6	A7	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	
Maximum Average Forward Rectified Current at T <sub>c</sub> = 125 °C	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I <sub>FSM</sub>	30							
Maximum Instantaneous Forward Voltage at 1 A	V <sub>F</sub>	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T <sub>a</sub> = 25°C	5							μA
	T <sub>a</sub> = 125°C	50							
Typical Junction Capacitance <sup>(1)</sup>	C <sub>J</sub>	8(TYP.)							pF
Typical Thermal Resistance <sup>(2)</sup>	R <sub>θJA</sub>	90							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

(1) Measured at 1 MHz and Applied Reverse Voltage Of 4V D.C

(2) P.C.B. Mounted With 2.0" X 2.0" (5 X 5 cm) Copper Pad Areas.

# CHARACTERISTIC CURVES

Fig. 1- Forward Current Derating Curve

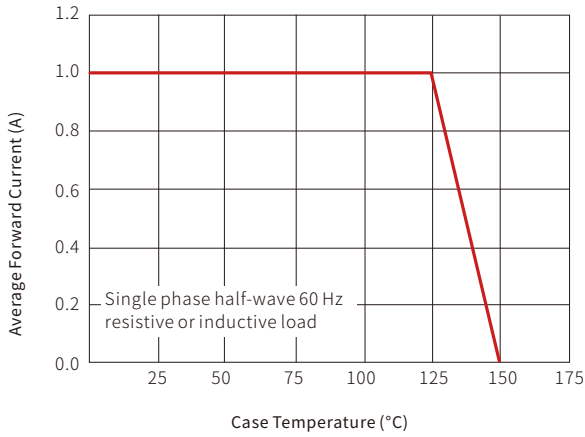


Fig. 2-Typical Instaneous Reverse Characteristics

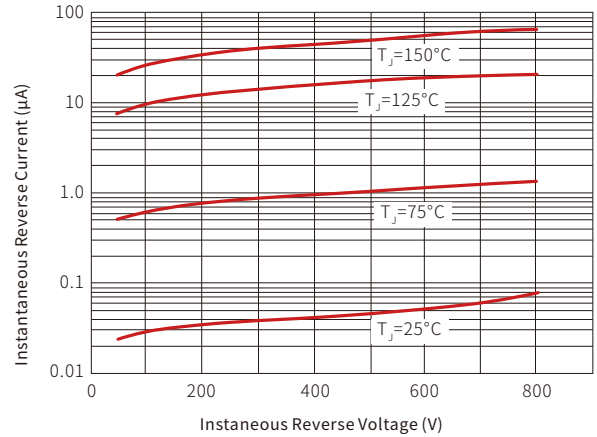


Fig. 3-Typical Forward Characteristic

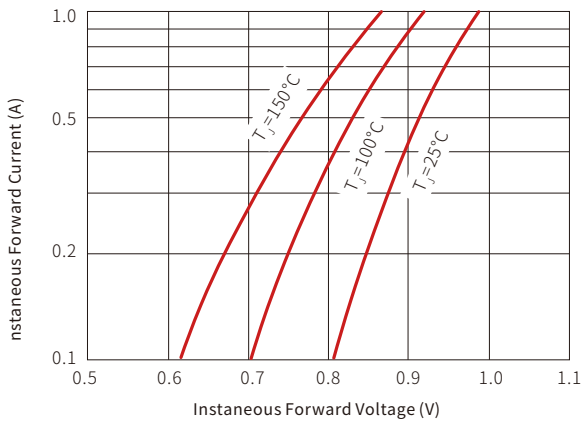
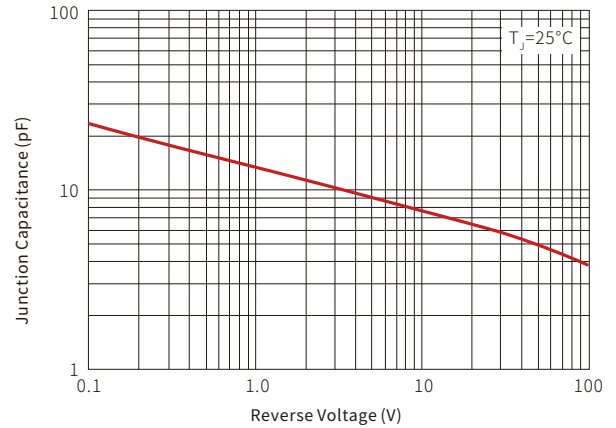
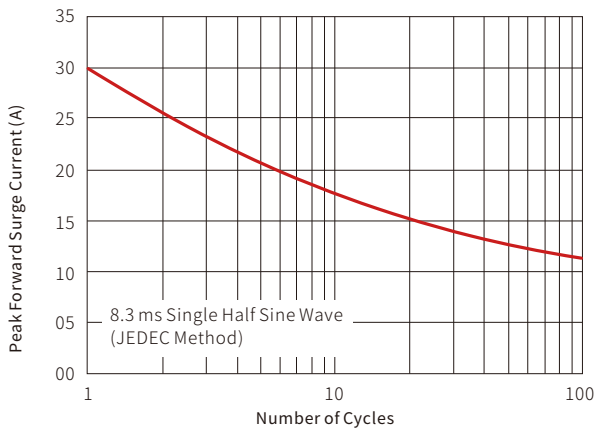


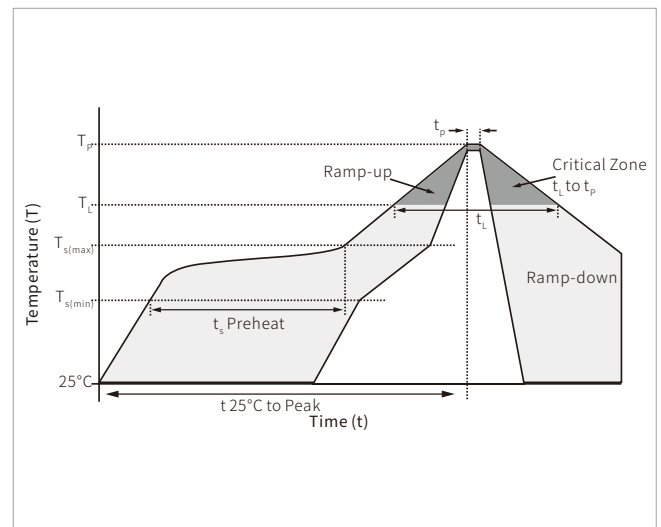
Fig. 4-Typical Junction Capacitance



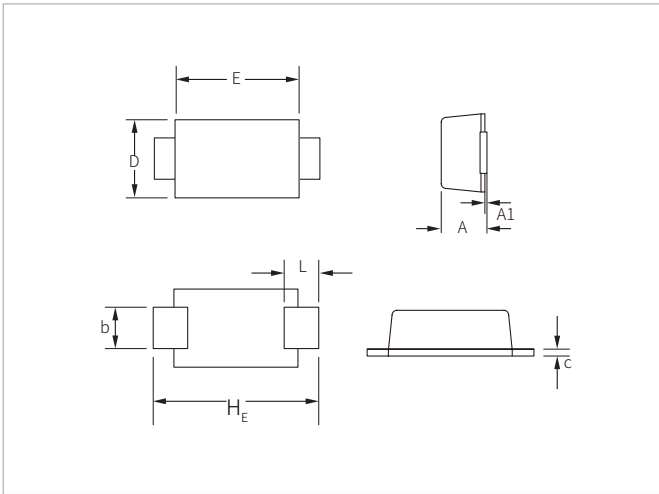
**Fig. 5- Maximum Non-Repetitive Peak Forward Surge Current**


## 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

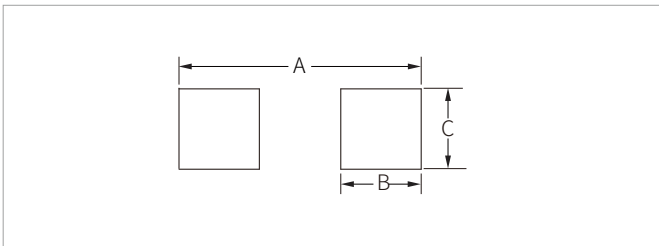


## SOD-123FL PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.45	0.037	0.057
A1	0.00	0.10	0.000	0.004
b	0.70	1.20	0.028	0.047
c	0.05	0.30	0.002	0.012
D	1.50	2.00	0.059	0.079
E	2.50	3.10	0.098	0.122
L	0.35	0.90	0.014	0.035
H <sub>E</sub>	3.40	3.90	0.134	0.154

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	4.20	0.165
B	1.50	0.059
C	1.20	0.047

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
1N4001W-1N4007W	SOD-123FL	3000PCS	7"

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