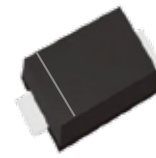


## FEATURES

- Low Profile Package
- Ideal For Automated Placement
- Glass Passivated Chip Junctions
- Low Forward Voltage Drop
- Low Leakage Current
- High Forward Surge Capability



SOD-123FL



Schematic Symbol

## MECHANICAL DATA

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity: Cathode Line Denotes the Cathode end

## APPROVALS

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

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

Parameter		Symbol	US1 AFA	US1 BFA	US1 DFA	US1 GFA	US1 JFA	US1 KFA	US1 MFA	Unit
Marking			HAL	HBL	HDL	HGL	HJL	HKL	HML	
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>L</sub> =100°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>	25							
Instantaneous Forward Voltage I <sub>F</sub> =1A <sup>(2)</sup>		V <sub>F</sub>	1.0			1.3	1.7			V
Maximum Reverse Current V <sub>R</sub> =V <sub>DC</sub>	T <sub>J</sub> =25°C	I <sub>R</sub>	5.0							μA
	T <sub>J</sub> =125°C		50							
Reverse Recovery Time I <sub>F</sub> =0.5A,I <sub>R</sub> =1.0A,I <sub>RR</sub> =0.25A		t <sub>rr</sub>	50				75			nS
Thermal Resistance From Junction To Lead <sup>(1)</sup>		R <sub>θJL</sub>	30							°C/W
Operating And Storage Temperature Range		T <sub>J</sub> ,T <sub>STG</sub>	-55~+150							°C

Note:1.Mounted on epoxy glass PCB with 3mmx3mm Cu pads ( $\geq 40\text{ }\mu\text{m}$  thick)  
 2.Pulsetest: 300 $\mu\text{s}$  pulse width, 1% duty cycle.

# CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

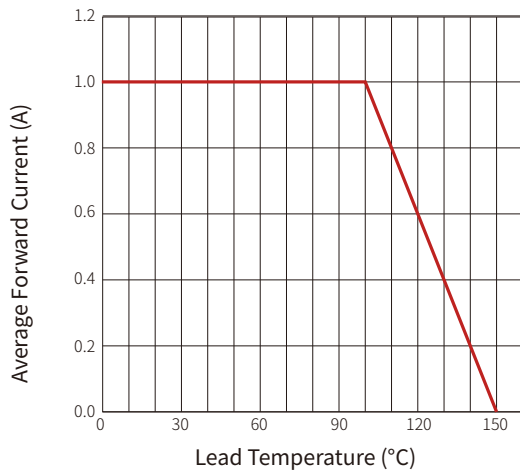


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

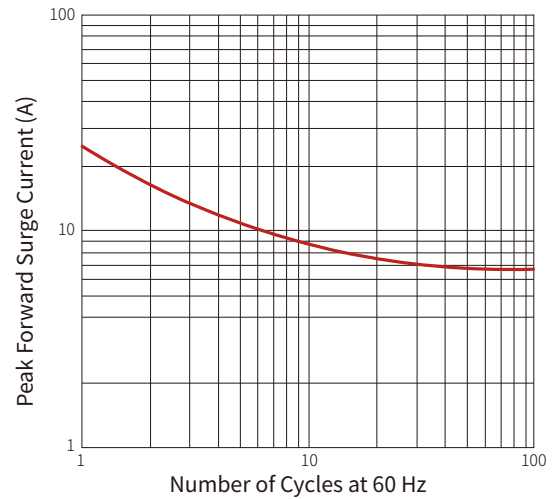


Fig.3 Typical Instantaneous Forward Characteristics

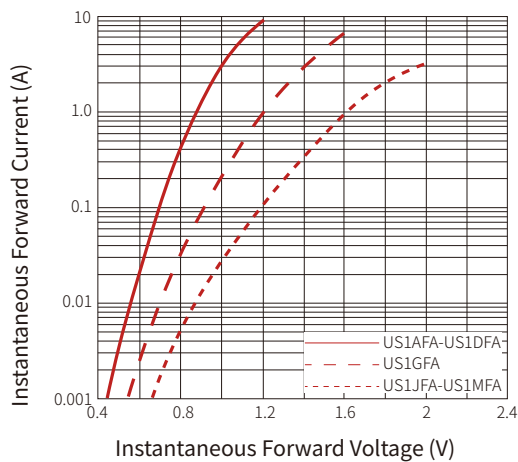
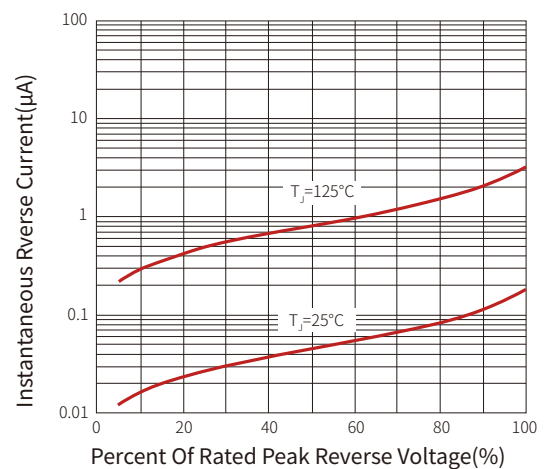
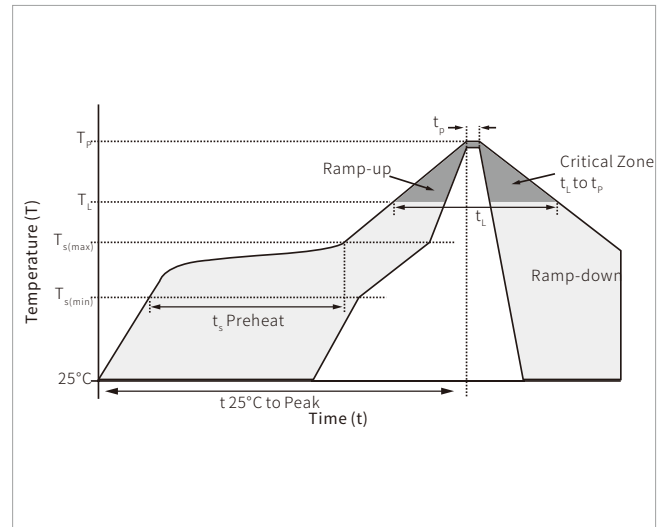


Fig.4 Typical Reverse Characteristics

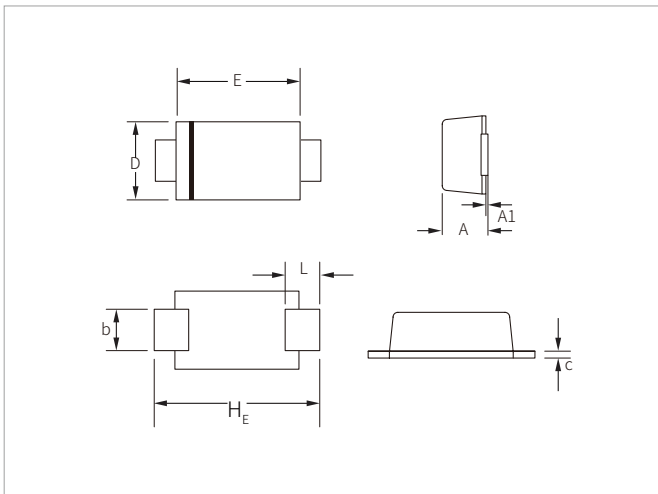


## SOLDERING PARAMETERS

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) ( $t_s$ )	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

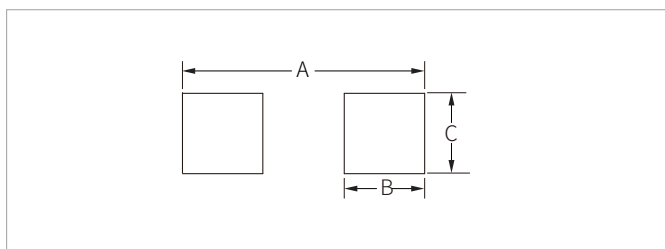


## SOD-123FL PACKAGE INFORMATION



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
US1AFA-US1MFA	SOD-123FL	3000PCS	7"

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