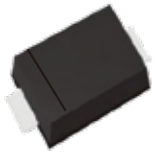
FEATURES

- Low Profile Package
- Ideal For Automated Placement
- Glass Passivated Chip Junction
- Fast switching for high efficiency
- High forward surge capability



SOD-123FL

Schematic Symbol

APPLICATIONS

- For use in high efficient switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer and telecommunication

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter		Symbol	H1A	H1B	H1D	H1G	H1J	H1K	H1M	Unit
Marking			H1A	H1B	H1D	H1G	H1J	H1K	H1M	
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	
Average Rectified Output Current @60Hz Sine Wave, Resistance Load, TL (Fig.1)		I_O	1.0							A
Forward Surge Current (Non-Repetitive) @60Hz Half-Sine Wave,1 cycle, Tj=25°C		I_{FSM}	30							
Forward Surge Current (Non-Repetitive) @1ms, Square Wave, 1 Cycle, Tj=25°C		I_{FSM}	60							
Maximum Instantaneous Forward Voltage @I_{FM}=1.0A		V_F	1.0			1.3	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_J=25°C	I_R	5							μA
	T_J=125°C		100							
Typical Thermal Resistance(1)		$R_{\theta J-A}$(1)	75							°C/W
		$R_{\theta J-L}$(1)	25							
		$R_{\theta J-C}$(1)	22							
Current Squared Time @1ms≤t≤8.3ms Tj=25°C		I^2t	3.735							A^2s
Typical Junction Capacitance Measured At 1MHz And Applied Reverse Voltage Of 4.0 V.D.C		C_J	17			10	7			pF
Operating junction and storage temperature range		T_J,T_{STG}	-55 to +150							°C
Maximum Reverse Recovery Time I_F=0.5A,I_r=1.0A, I_{rr}=0.25A		t_{rr}	50				75			ns

Note：(1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas

CHARACTERISTIC CURVES

Fig. 1- I_o-T_L Curve

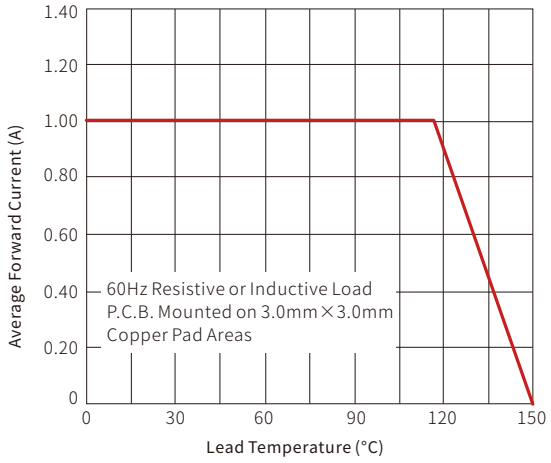


Fig. 2-Forward Surge Current Capability

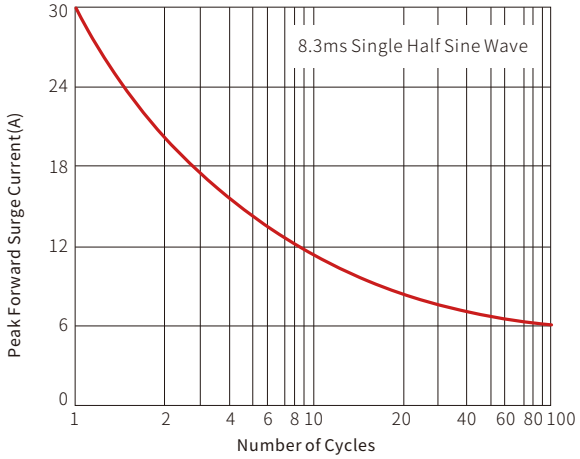


Fig.3 Typical Forward Voltage

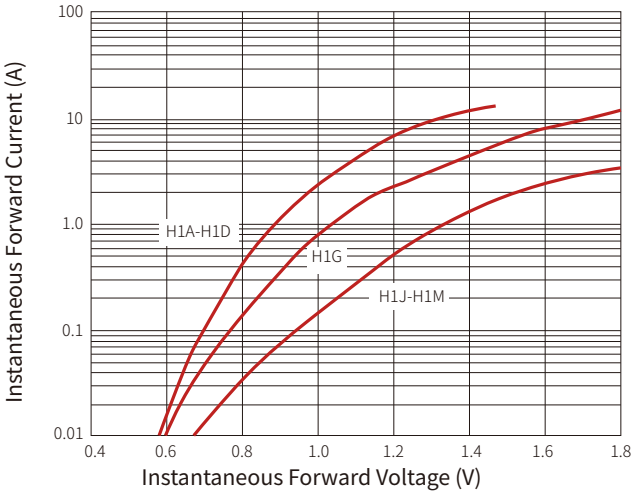


Fig.4 Typical Reverse Characteristics

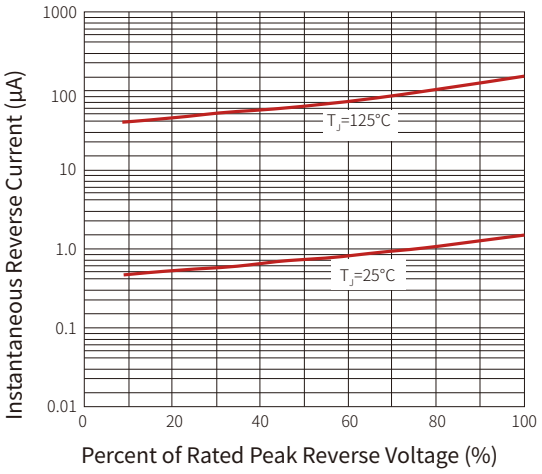
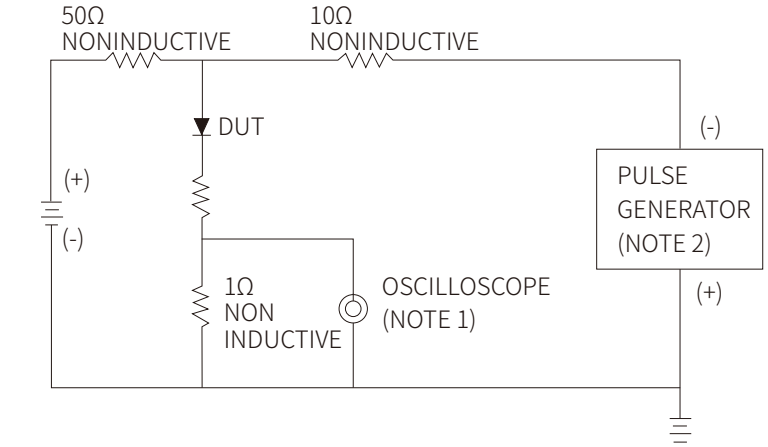
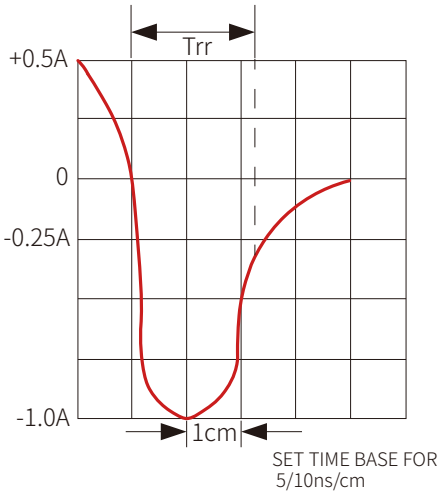


Fig. 5-Diagram Of Circuit And Testing Wave Form Of Reverse Recovery Time

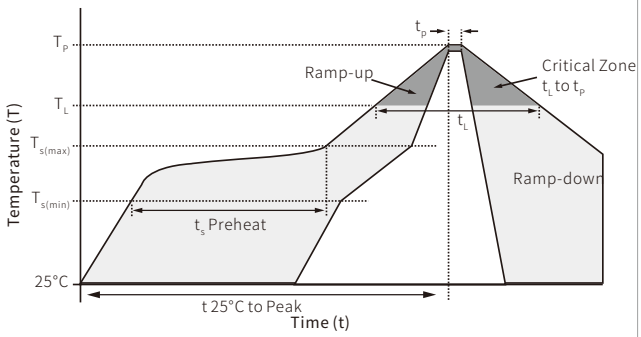




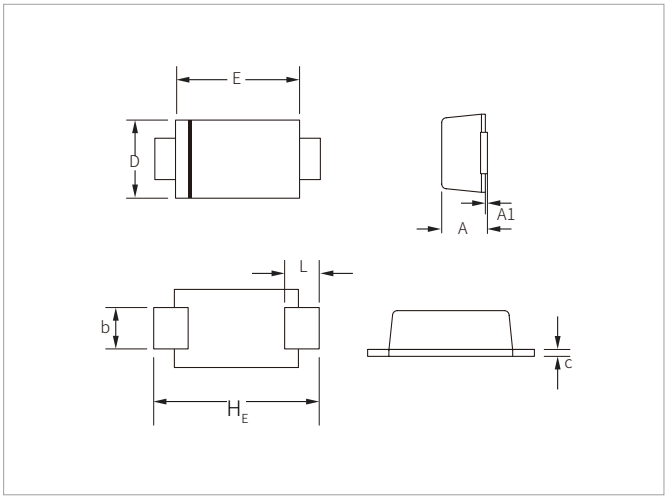
NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF
2. Rise time = 10 ns max., Source Impedance = 50Ω

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

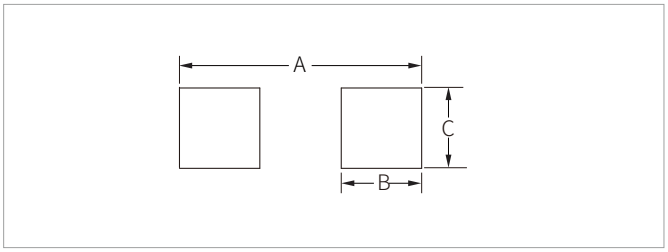


SOD-123FL PACKAGE INFORMATION



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_E	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
H1A-H1M	SOD-123FL	3000PCS	7”

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