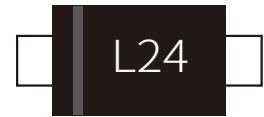


FEATURES

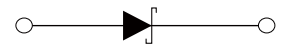
- | Low Power Loss, High Efficiency
- | High Surge Capability
- | High Current Capability and Low Forward Voltage Drop
- | Meet AEC-Q101 Requirements



SOD-123FL



Marking



Schematic Symbol

MECHANICAL DATA

- | Encapsulation: SOD-123FL Small Outline Plastic Package
- | Polarity: Color Band Denotes Cathode end
- | Mounting Position: Any

APPROVALS

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

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage @ $I_R=1.0\text{mA}$	V_{RRM}	40	V
Working Peak Reverse Voltage @ $I_R=1.0\text{mA}$	V_{RWM}	40	V
DC Blocking Voltage @ $I_R=1.0\text{mA}$	V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current	I_O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30	A
Power Dissipation (Note 1)	P_D	450	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	222	$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	$I_R=1\text{mA}$	40			V
Forward Voltage	V_F	$I_F=1.0\text{A}$			0.35	V
		$I_F=2.0\text{A}$			0.40	
Reverse Leakage Current (Note 2)	I_R	$V_R=40\text{V}, T_A=25^{\circ}\text{C}$			220	μA
		$V_R=40\text{V}, T_A=100^{\circ}\text{C}$		8.5		mA
Total capacitance	C_T	$V_R=4\text{V}, f=1\text{MHz}$		50		pF

Notes :

1. FR-4 Board = 70 x 60 x 1mm
2. Short duration pulse test used to minimize self-heating effect.
3. Mounted on metal core PCB

CHARACTERISTIC CURVES

Fig. 1- Forward Current Derating Curve

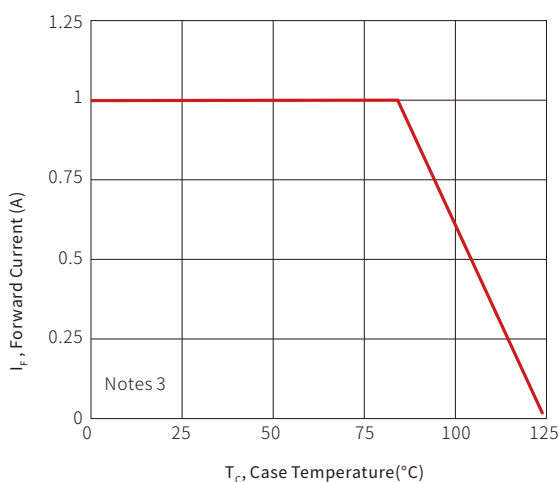


Fig. 2-Typical Junction Capacitance

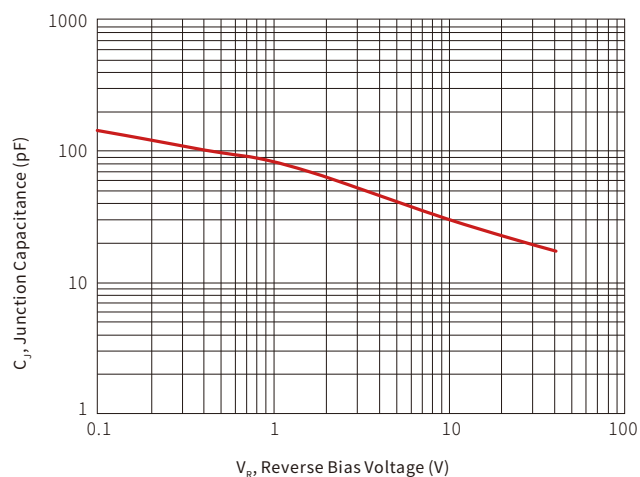


Fig. 3- Typical Reverse Characteristics

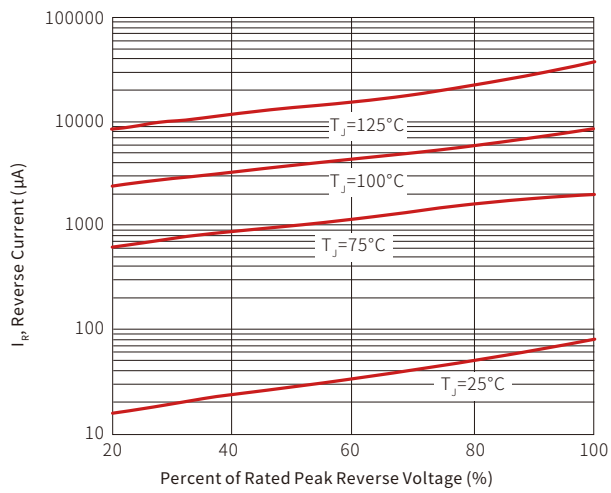


Fig. 4-Typical Forward Characteristics

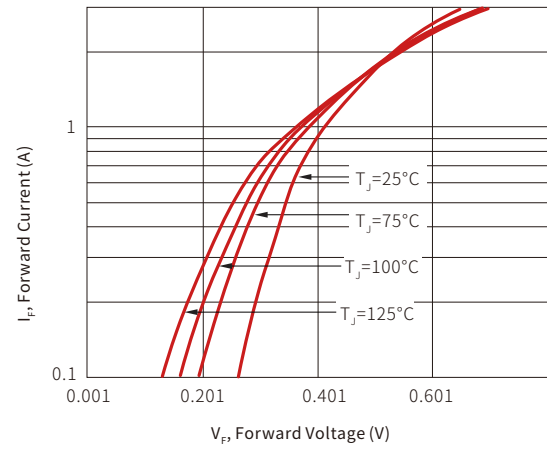
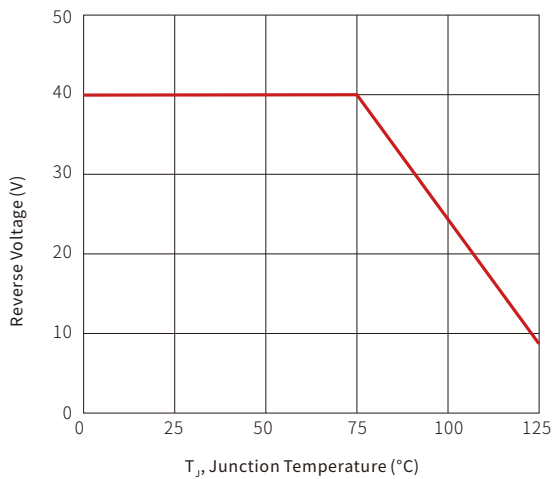
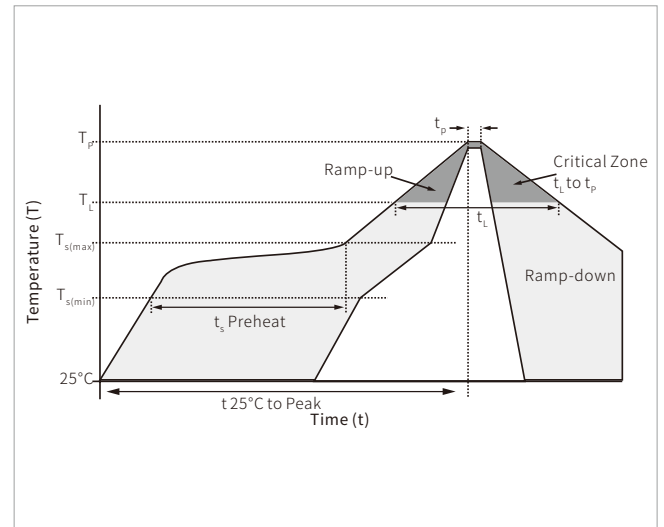


Fig. 5- Operating Temperature Derating Curve

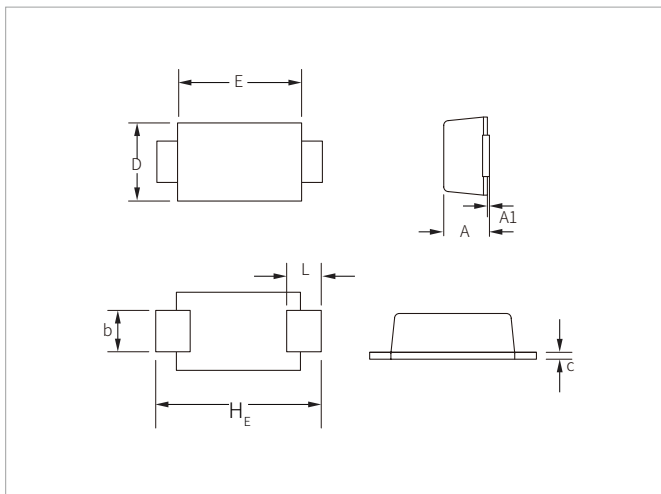


SOLDERING PARAMETERS

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_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

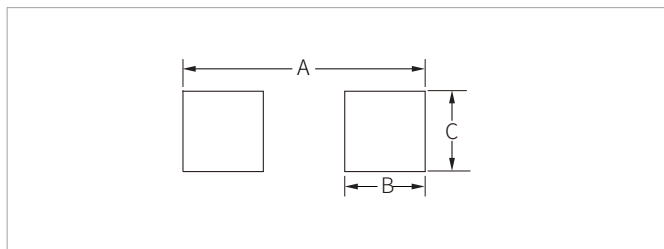


SOD-123FL PACKAGE INFORMATION



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
HE	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
SS14DLFQ	SOD-123FL	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

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