

FEATURES

- | For surface mounted applications
- | Ideal for automated placement
- | High forward surge current capability
- | Meet AEC-Q101 Requirements



SOD-123FL



Schematic Symbol

APPLICATIONS

- | For Use In General Purpose 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 ($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	A1Q	A2Q	A3Q	A4Q	A5Q	A6Q	A7Q	Unit
Marking			A1	A2	A3	A4	A5	A6	A7	
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	
Maximum Average Forward Rectified Current at T _L =100°C		I _{F(AV)}	1.0							A
Surge Peak Forward Current,8.3ms Single Half Sine-Wave Superimposed On Rated Load		I _{FSM}	30.0							
Maximum Instantaneous Forward Voltage at 1.0A		V _F	1.0							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	I _R	2.0							μA
	T _A =125°C		100							
Maximum Reverse Recovery Time		T _{rr}	1600							ns
Typical Junction Capacitance (Note1)		C _J	6.5							pF
Typical Thermal Resistance(Note2)		R _{θJA}	70							°C/W
Operating Junction And Storage Temperature Range		T _J ,T _{STG}	-55 to +150							°C

Note:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C

2. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

CHARACTERISTIC CURVES

Fig.1 Derating Curve Output Rectified Current

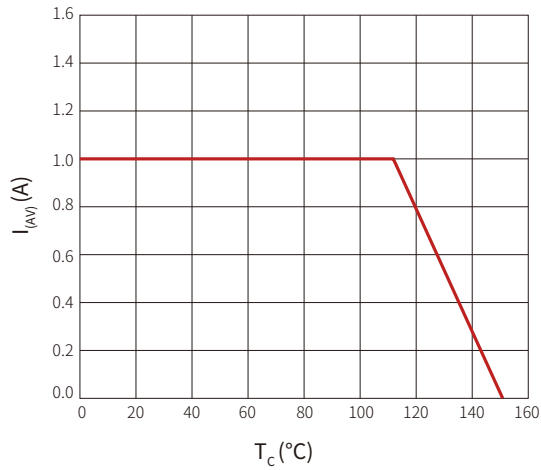


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per leg

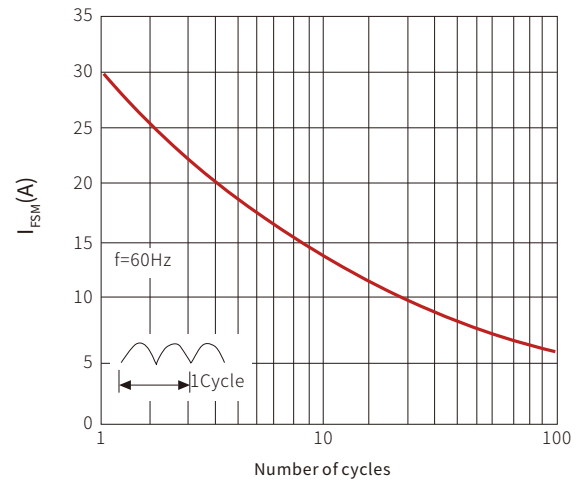


Fig.3 Typical Forward Voltage Characteristics

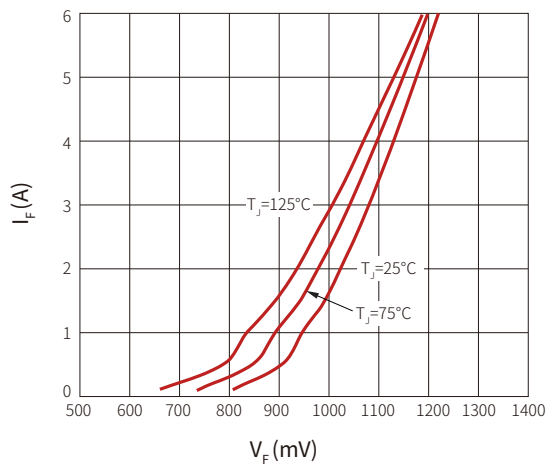
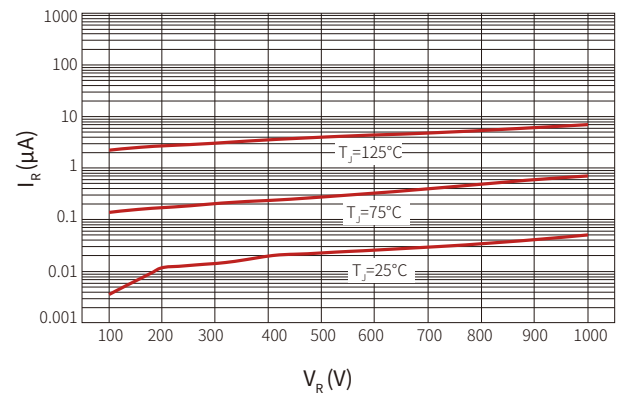
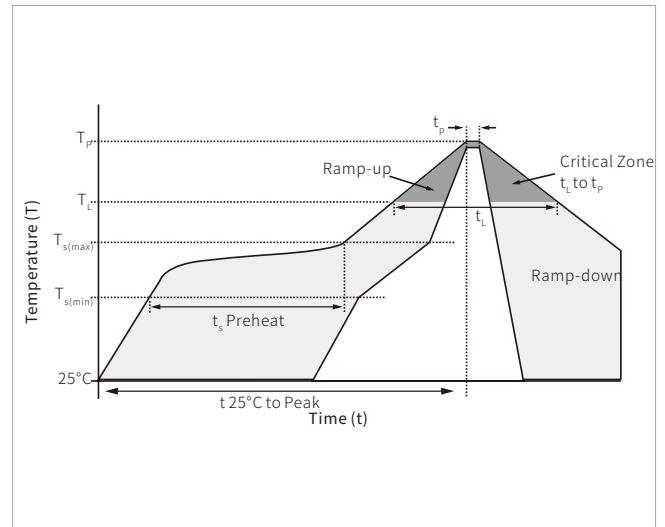


Fig.4 Typical Reverse Leakage Characteristics

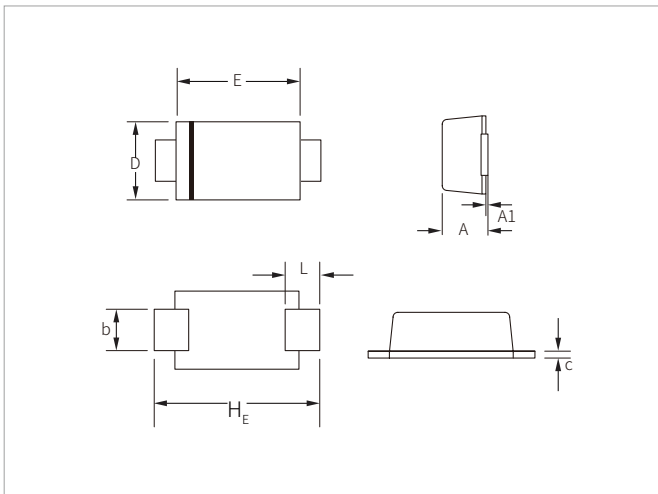


SOLDERING PARAMETERS

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

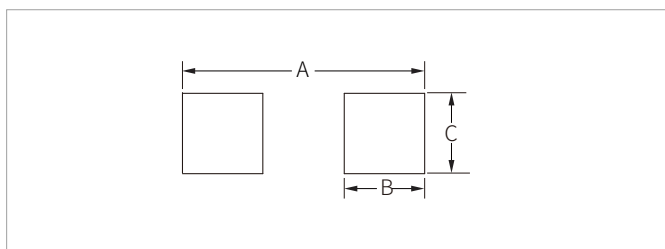


SOD-123FL PACKAGE INFORMATION



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 _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
A1Q-A7Q	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

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.