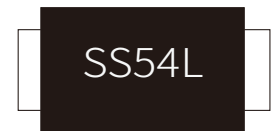


FEATURES

- | For Surface Mounted Applications
- | Built-in Strain Relief, ideal For Automated Placement
- | Low Forward Voltage
- | High Forward Surge Current Capability
- | The Plastic Package Carries Underwriters Laboratory Flammability Classification 94V-0
- | Meet AEC-Q101 Requirements



SMAF



Marking

MECHANICAL DATA

- | Case : Molded Plastic Body
- | Polarity : Polarity Symbol Marking On Body
- | Mounting Position : Any



Schematic Symbol

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
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Maximum RMS Voltage	V_{RMS}	28	V
Maximum DC Blocking Voltage	V_{DC}	40	V
Maximum Average Forward Rectified Current at $T_L=100^{\circ}\text{C}$	$I_{(AV)}$	5.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load	I_{FSM}	120.0	A
Typical Thermal Resistance	$R_{\theta JA}$	65	$^{\circ}\text{C}/\text{W}$
	$R_{\theta JL}$	20	$^{\circ}\text{C}/\text{W}$
Operating Temperature Range	T_J	-55 to 125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}\text{C}$

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

Parameter	Symbol	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage at 5.0A	V_F	0.43	0.48	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	50	200	μA
		5	50	mA

CHARACTERISTIC CURVES

Fig.1 Derating Curve Output Rectified Current

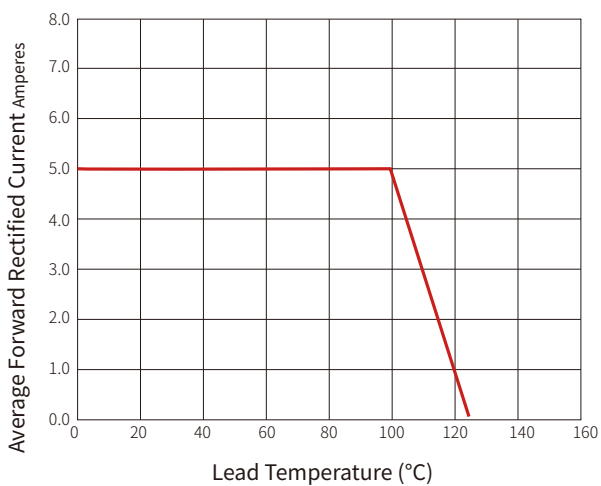


Fig.2 Maximum Non-repetitive Peak Forward Surge Current Perleg

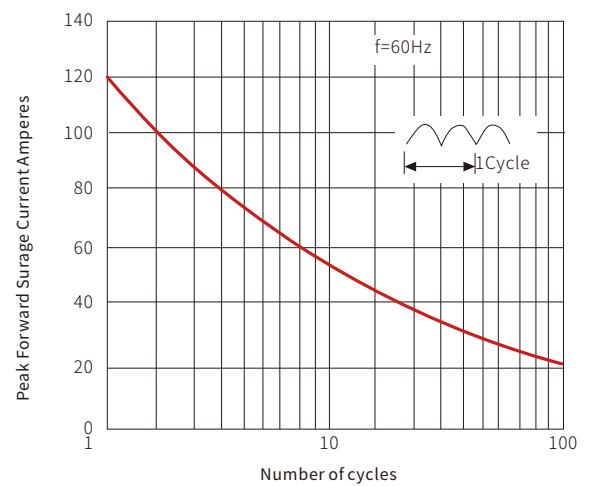
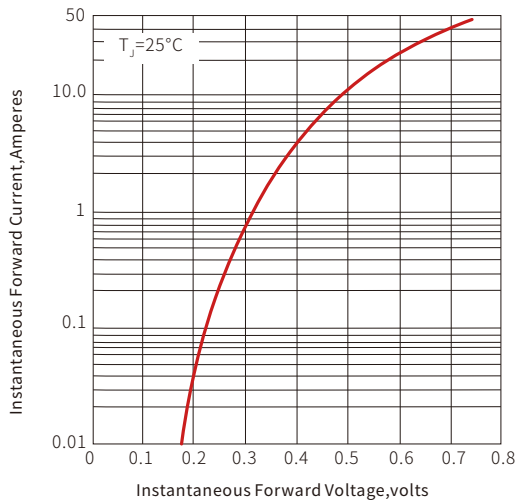
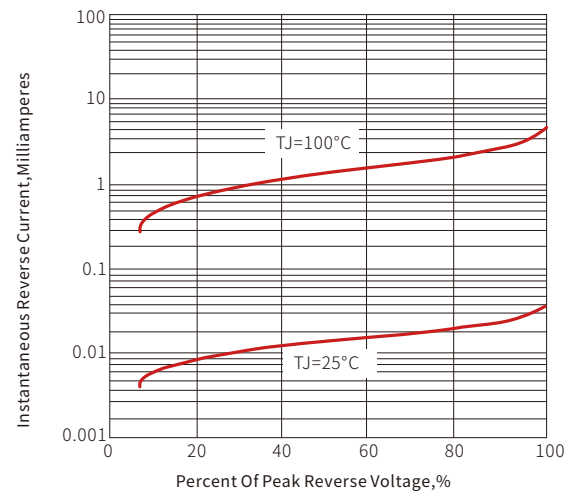
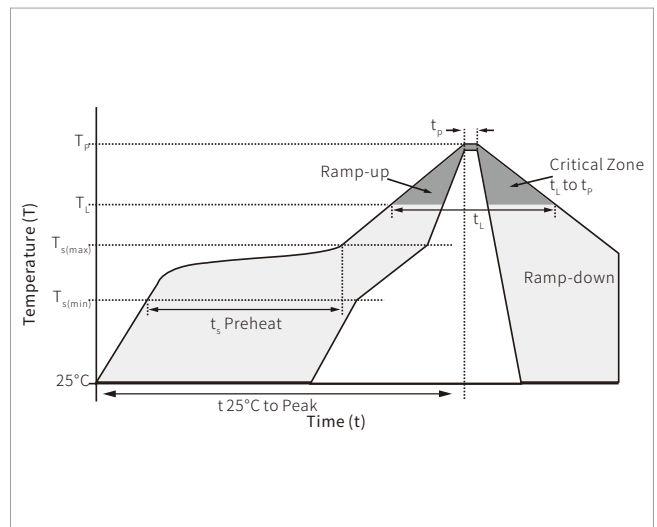


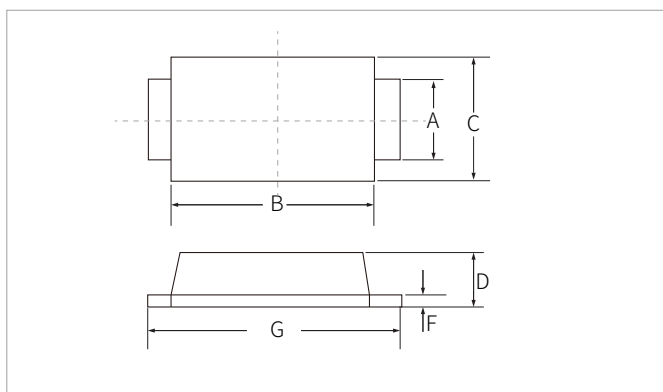
Fig.3 Typical Forward Voltage Characteristics

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

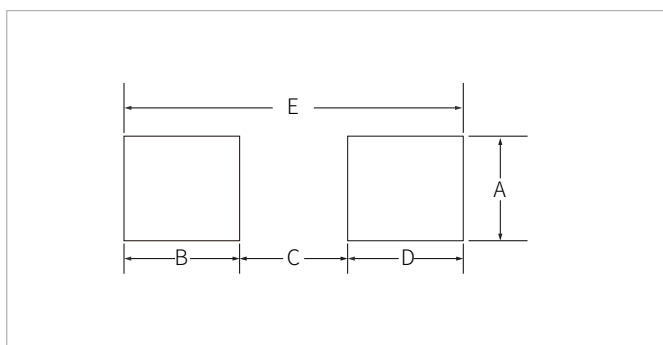


SMAF PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	1.35	1.60	0.053	0.063
B	3.40	3.80	0.134	0.145
C	2.40	2.80	0.094	0.110
D	0.95	1.45	0.037	0.057
F	0.15	0.22	0.006	0.009
G	4.40	4.80	0.173	0.189

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	1.70	-	0.067	-
B	2.50	-	0.098	-
C	-	1.5	-	0.059
D	2.50	-	0.098	-
E	6.50REF		0.256REF	

ORDERING INFORMATION

Part Number	Package	QTY/Reel	Reel Size
SS54ALFQ	SMAF	5000PCS	13"

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.