

## FEATURES

- Idea for printed circuit board
- Glass passivated Junction chip
- Low reverse leakage
- High forward surge current capability



SMAF



Schematic Symbol

## MECHANICAL DATA

- Case : Molded plastic body
- Polarity : Polarity symbol marking on body
- Mounting Position : Any

## 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	RS3AF	RS3BF	RS3DF	RS3GF	RS3JF	RS3KF	RS3MF	Unit
Marking			RS3AF	RS3BF	RS3DF	RS3GF	RS3JF	RS3KF	RS3MF	
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>	3.0							A
Surge peak forward current,8.3ms single half sine-wave superimposed on rated load per diode		I <sub>FSM</sub>	100.0							
Maximum instantaneous forward voltage at 3.0A		V <sub>F</sub>	1.30							V
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> =25°C	I <sub>R</sub>	5.0							μA
	T <sub>A</sub> =125°C		500							
Maximun reverse recovery time(Note 1)		T <sub>rr</sub>	150				250	500		ns
Typical junction capacitance (Note2)		C <sub>J</sub>	54.0							pF
Typical thermal resistance		R <sub>θJA</sub>	70.0							°C/W
Operating junction and storage temperature range		T <sub>J</sub> ,T <sub>STG</sub>	-55 to +150							°C

Note :

- Reverse recovery time test condition:  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{RR}=0.25\text{A}$
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

# CHARACTERISTIC CURVES

Fig. 1- Derating Curve Output Rectified Current

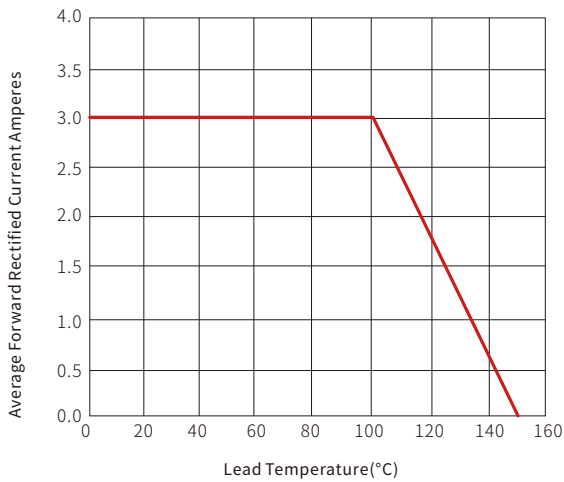


Fig. 2-Maximum Non-Repetitive Peak Forward Surge Current Perleg

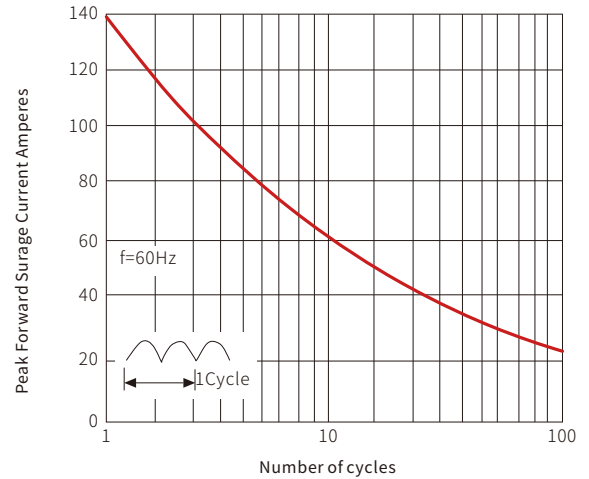


Fig. 3-Typical Forward Voltage Characteristics

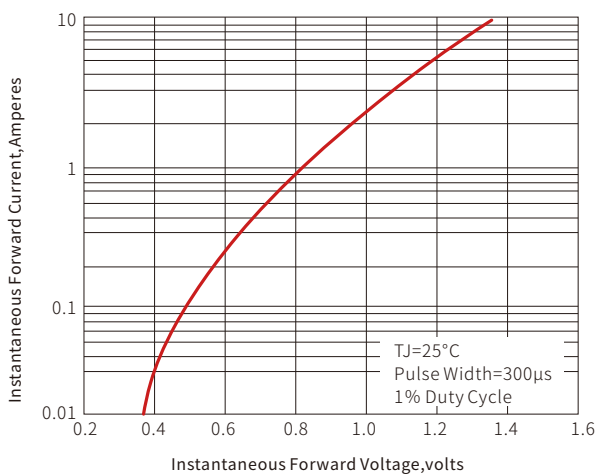
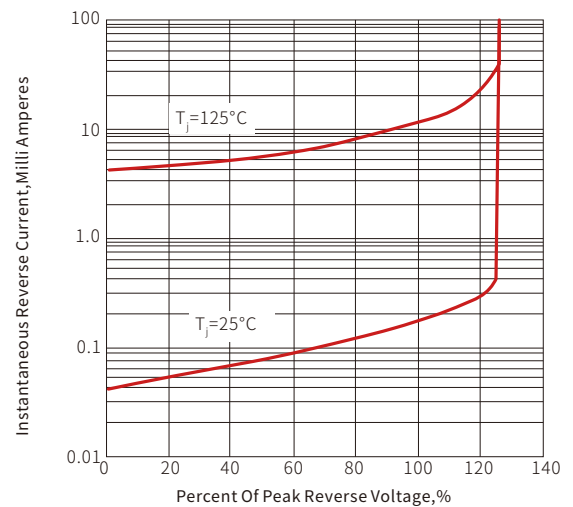
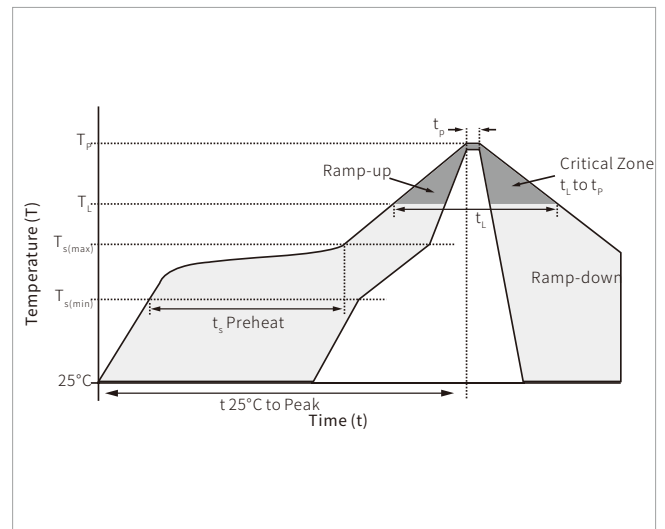


Fig. 4-Typical Reverse Leakage Characteristics

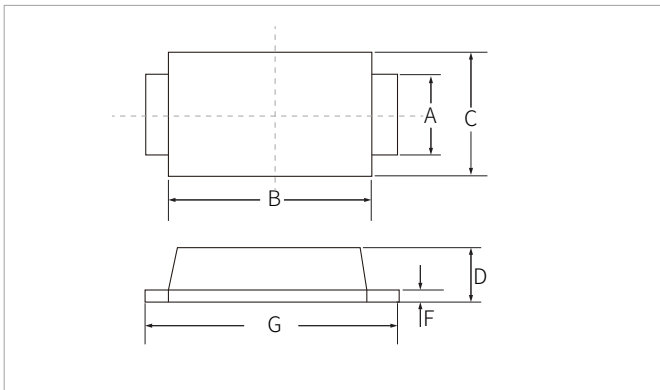


## SOLDERING PARAMETERS

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

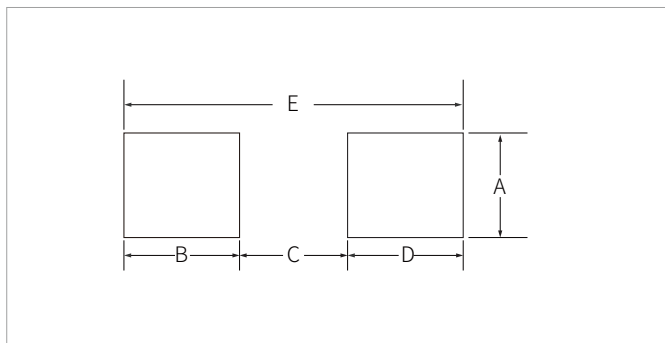


## SMAF PACKAGE INFORMATION



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	Component Package	QTY/Reel	Reel Size
RS3AF-RS3MF	SMAF	3000PCS	7"

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