

## 1A, 600V - 1000V Surface Mount Rectifiers

### FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



**SMAF**

### MECHANICAL DATA

**Case:** SMAF

Molding compound: UL flammability classification rating 94V-0

MSL1: per J-STD-020

Packing code with suffix "G" means green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

**Polarity:** Indicated by cathode band

**Weight:** 35mg (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)					
PARAMETER	SYMBOL	S1JF	S1KF	S1MF	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30			A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V <sub>F</sub>	1.1			V
Maximum reverse current @ rated V <sub>R</sub>	I <sub>R</sub>	T <sub>J</sub> =25°C	5		μA
		T <sub>J</sub> =125°C	50		
Typical reverse recovery time (Note 2)	t <sub>rr</sub>	1.8			μs
Typical junction capacitance (Note 3)	C <sub>J</sub>	6			pF
Typical thermal resistance	R <sub>θJL</sub>	25			°C/W
	R <sub>θJA</sub>	70			
Operating junction temperature range	T <sub>J</sub>	- 55 to +150			°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150			°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.

**ORDERING INFORMATION**

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
S1xF (Note 1, 2)	R3	G	SMAF	3,000 / 7" Plastic reel
	R2		SMAF	10,000 / 13" Paper reel

Note 1: "x" defines voltage from 600V (S1JF) to 1000V (S1MF)

Note 2: Whole series with green compound

**EXAMPLE**

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
S1JF R3G	S1JF	R3	G	Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub>=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

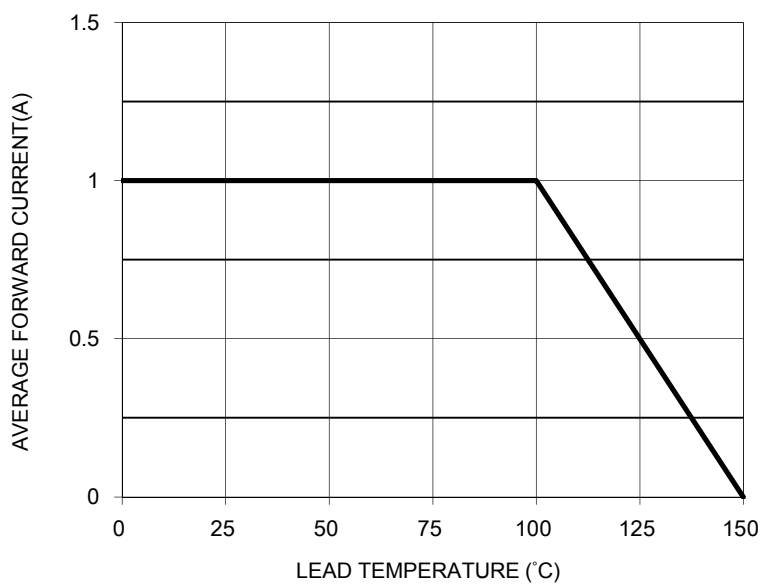


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

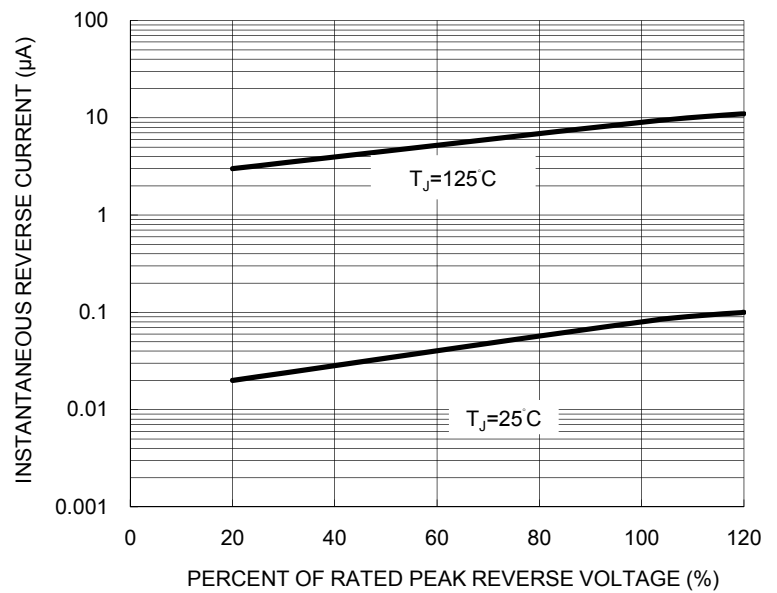


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

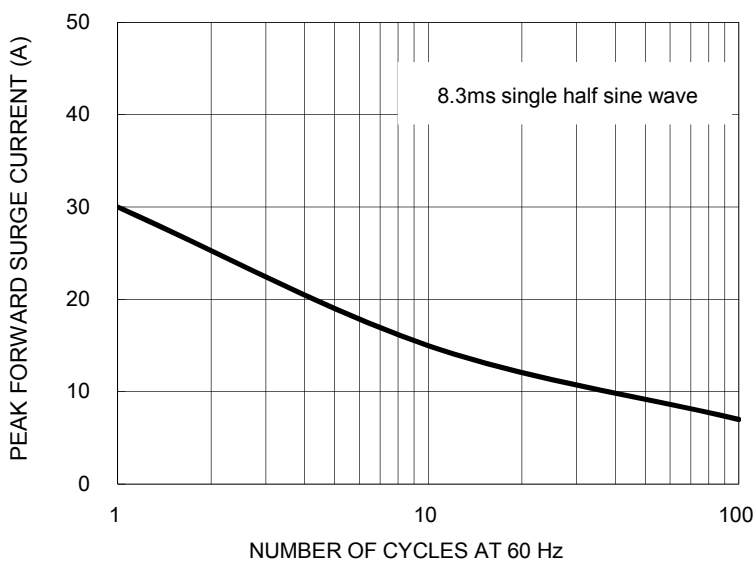
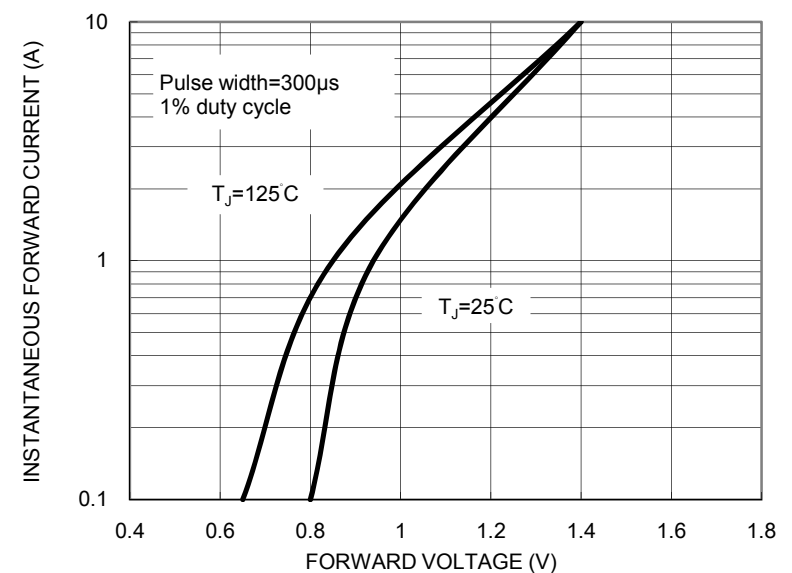
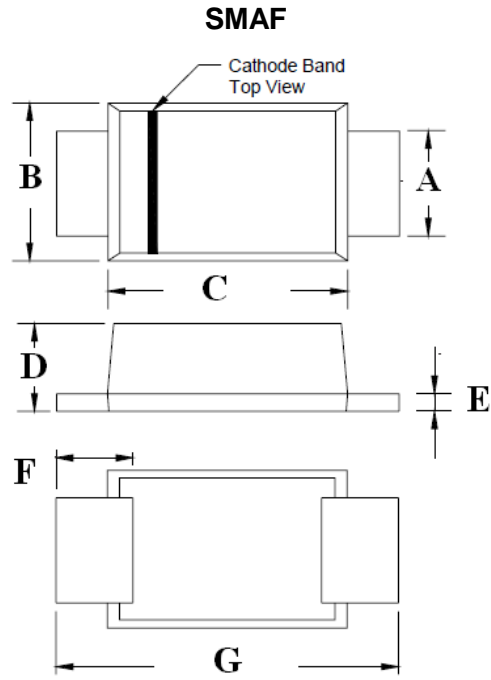


FIG. 4 TYPICAL FORWARD CHARACTERISTICS



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.25	1.60	0.049	0.063
B	2.40	2.80	0.094	0.110
C	3.30	4.30	0.130	0.169
D	0.90	1.10	0.035	0.043
E	0.10	0.25	0.004	0.010
F	0.70	1.20	0.028	0.047
G	4.40	5.20	0.173	0.205

MARKING DIAGRAM



- P/N = Specific Device Code
- G = Green compound Code
- YW = Date Code
- F = Factory Code

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