

1.0Amp Fast Recovery Surface Mounted Rectifiers

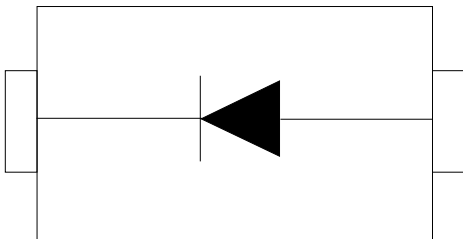
Description

General Application Fast Recovery Surface Mounted rectifier, encapsulated in a SMAF Surface-Mounted Device (SMD) plastic package.

Features

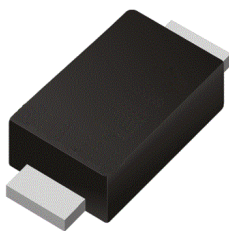
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260℃/10 seconds at terminals

Dimensions and Pin Configuration



Graphic symbol

Package



SMAF (Top View)

Mechanical Characteristics

- Case: JEDEC SMAF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body
- Case Material: “Green” Molding Compound

Applications

- For use in high frequency rectification of power Supplies, inverters, converters, and freewheeling Diodes for consumer and telecommunication

Ordering Informatio

Part Number	Shipping	Reel Size
R1AF	3000/Tape & Reel	7 inch
R1BF	3000/Tape & Reel	7 inch
R1DF	3000/Tape & Reel	7 inch
R1GF	3000/Tape & Reel	7 inch
R1JF	3000/Tape & Reel	7 inch
R1KF	3000/Tape & Reel	7 inch
R1MF	3000/Tape & Reel	7 inch

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Items	Symbol	R1AF	R1BF	R1DF	R1GF	R1JF	R1KF	R1MF	UNIT
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	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=100^{\circ}\text{C}$	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30.0							A
Typical thermal resistance	R_{QJA}	70.0							$^{\circ}\text{C/W}$
Operating junction temperature range	T_J	$-55 \sim +150$							$^{\circ}\text{C}$
Storage temperature range	T_{STG}	$-55 \sim +150$							$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Items	Test conditions	Symbol	R1AF	R1BF	R1DF	R1GF	R1JF	R1KF	R1MF	UNIT
Maximum instantaneous forward voltage	I _F =1.0A	V _F	1.30							V
Maximum DC reverse current	T _A =25℃	I _R	2.0							uA
at rated DC blocking voltage	T _A =125℃		200							
Maxinum reverse recovery time(Note1)		T _{rr}	150				250	500		ns
Typical junction capacitance (Note2)		C _j	15.0							pF

Note:

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

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

FIG.1-DERATING CURVE OUTPUT RECTIFIED CURRENT

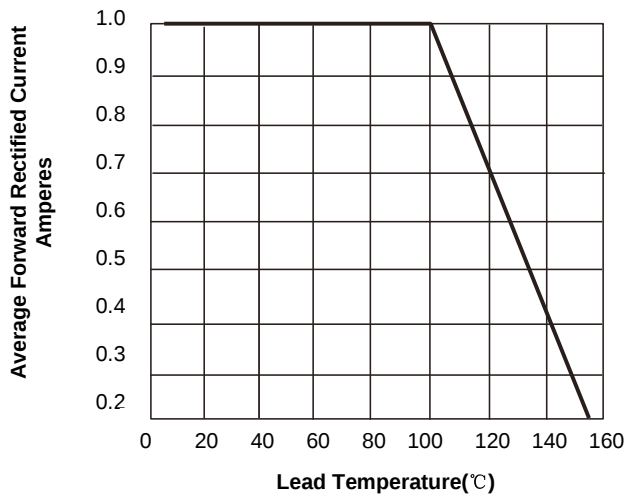


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD

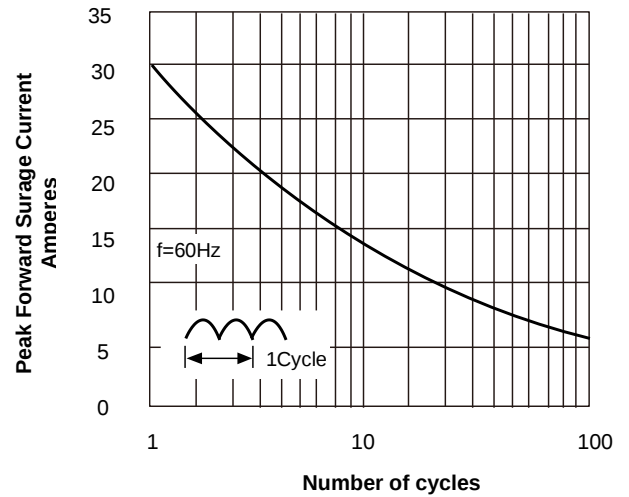


FIG.3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

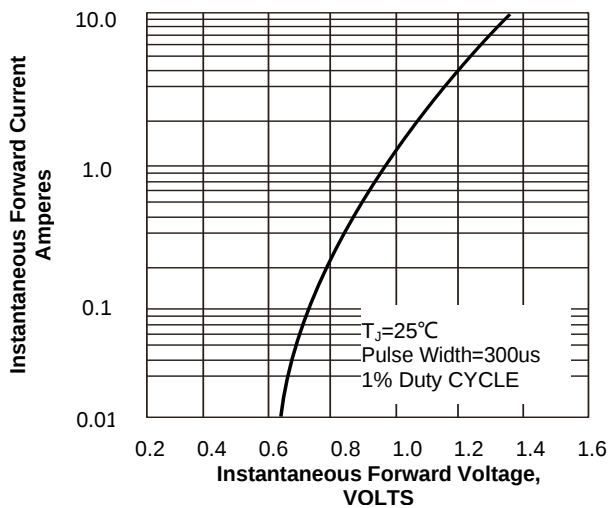
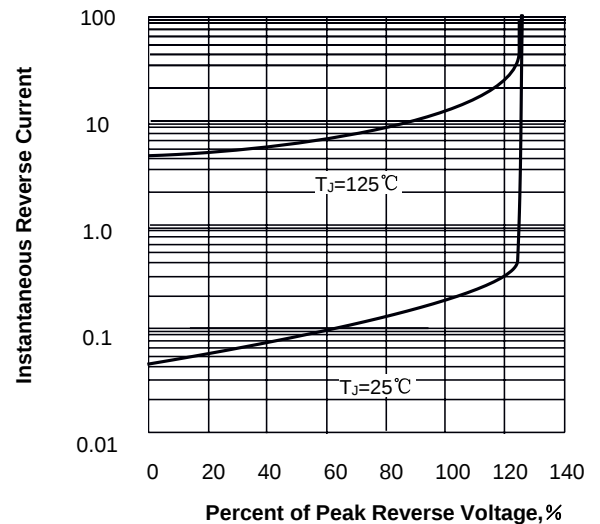
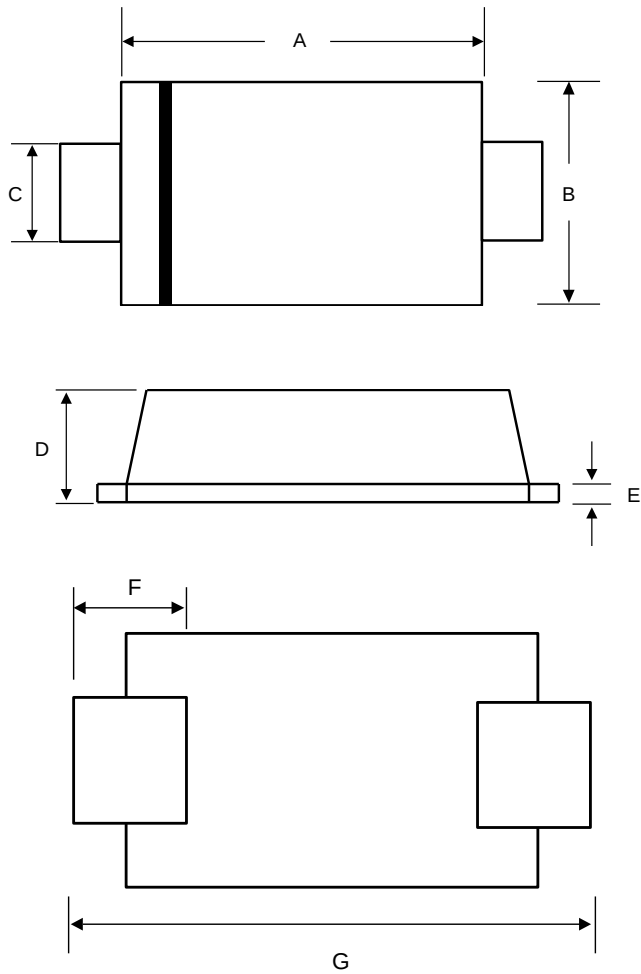


FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

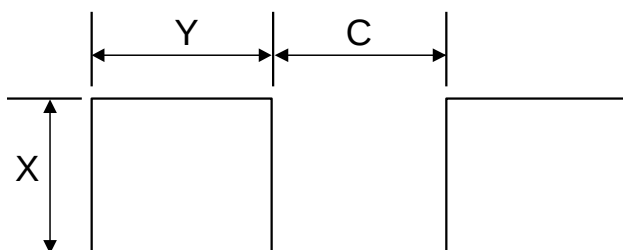


SMAF Package Outline Drawing



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	3.30	3.70	0.130	0.146
B	2.30	2.70	0.090	0.106
C	1.20	1.60	0.047	0.063
D	0.90	1.30	0.035	0.051
E	0.05	0.30	0.002	0.011
F	0.50		0.019	
G	4.30	4.90	0.169	0.193

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.68	0.066
Y	1.52	0.060
C	2.00	0.078

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