

RS1AF THRU RS1MF

Surface Mount Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

Features

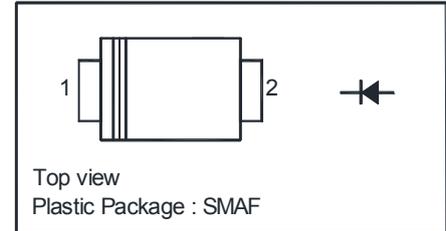
- Glass passivated chip junction
- For surface mounted applications
- Low profile package
- Fast reverse recovery time

Mechanical Data

- **Case:** SMAF
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



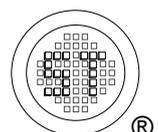
Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	RS1AF	RS1BF	RS1DF	RS1GF	RS1JF	RS1KF	RS1MF	Units
Maximum Recurrent 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 $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 1 A	V_F	1.3							V
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	5 50							μA
Typical Junction Capacitance at $V_R = 4\text{ V}$, $f = 1\text{ MHz}$	C_j	15							pF
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$	115							$^\circ\text{C/W}$
Maximum Reverse Recovery Time at $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	150				250	500		ns
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							$^\circ\text{C}$

¹⁾ P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



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Electrical Characteristic Curves

Fig.1 Forward Current Derating Curve

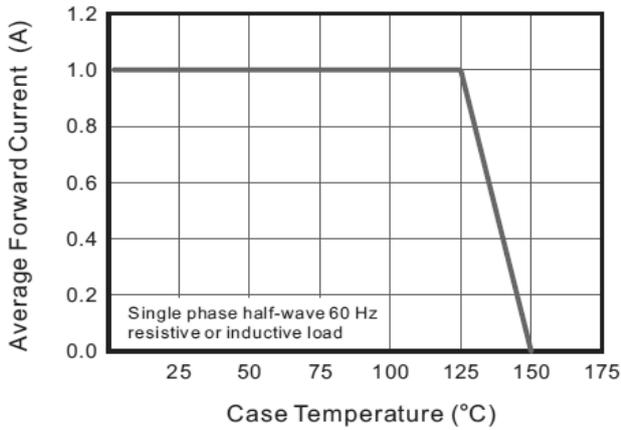


Fig.2 Typical Reverse Characteristics

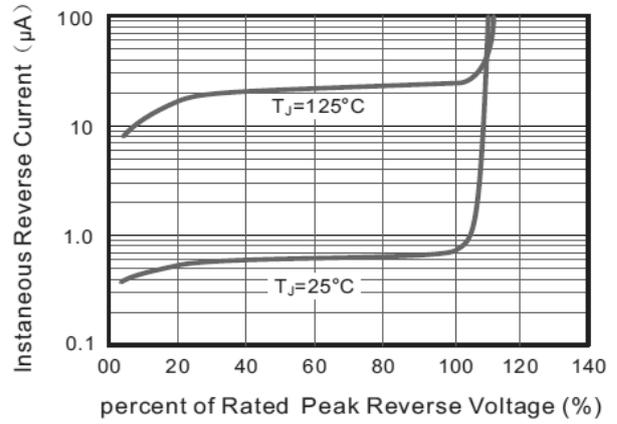


Fig.3 Typical Instantaneous Forward Characteristics

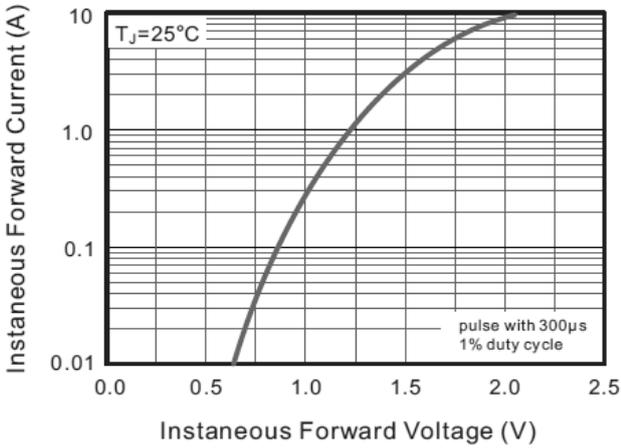


Fig.4 Typical Junction Capacitance

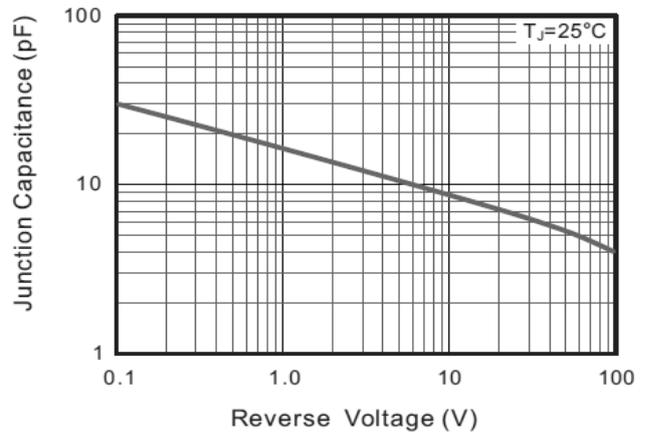
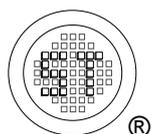
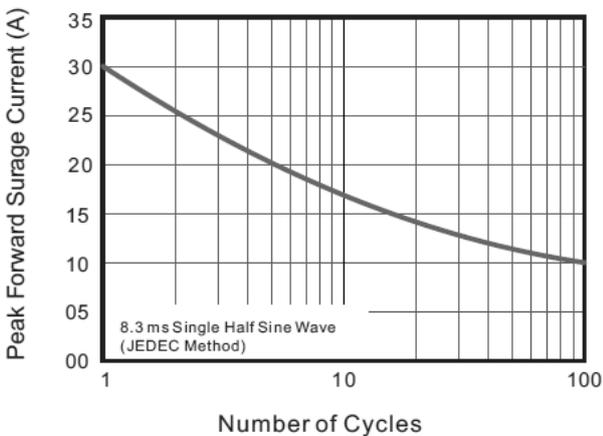


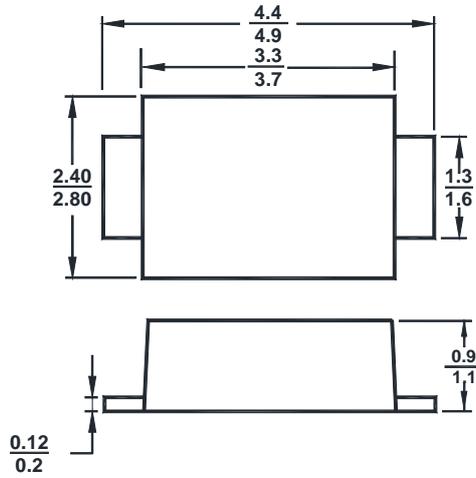
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



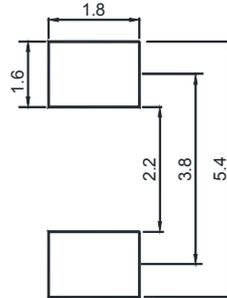
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Package Outline Dimensions (Units: mm)

SMAF



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SMAF	12	4 ± 0.1	(0.157 ± 0.004)	178	7	3,000
				330	13	10,000

Marking information

"RS1*" = Part No.

Symbols	Marking	Symbols	Marking	Symbols	Marking	Symbols	Marking
RS1AF	RS1A	RS1BF	RS1B	RS1DF	RS1D	RS1GF	RS1G
RS1JF	RS1J	RS1KF	RS1K	RS1MF	RS1M		

"III" = Cathode line

"YYWW" = Date Code Marking

"Y" = Year

"W" = Week

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