RS1AF THRU RS1MF

Surface Mount Fast Recovery Rectifier
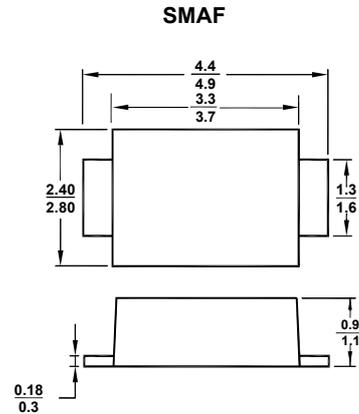**Reverse Voltage - 50 to 1000 V**
Forward Current - 1 A

Features
- Glass Passivated Chip Juntion
- 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

SMAF

All Dimensions in mm

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
	Marking	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	-
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_a = 65°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 $\quad T_a$ = 25°C at Rated DC Blocking Voltage $\quad T_a$ = 125°C	I_R	5 50							μA
Typical Junction Capacitance at V_R = 4 V, f = 1 MHZ	C_j	15							pF
Typical Thermal Resistance [1]	$R_{\theta JA}$	115							°C/W
Maximum Reverse Recovery Time at I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A	t_{rr}	150				250	500		ns
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							°C

1) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

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Fig.1 Forward Current Derating Curve

Average Forward Current (A)

Single phase half-wave 60 Hz
resistive or inductive load

Ambient Temperature (°C)
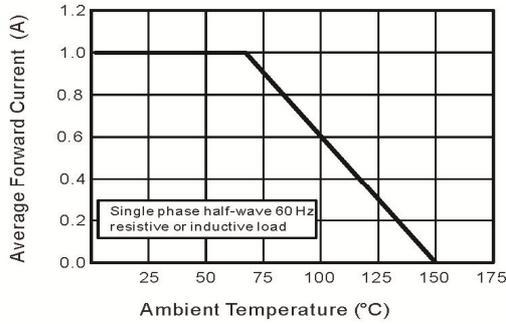
Fig.2 Typical Reverse Characteristics

Instaneous Reverse Current (μA)

T_J=125°C

T_J=25°C

percent of Rated Peak Reverse Voltage (%)
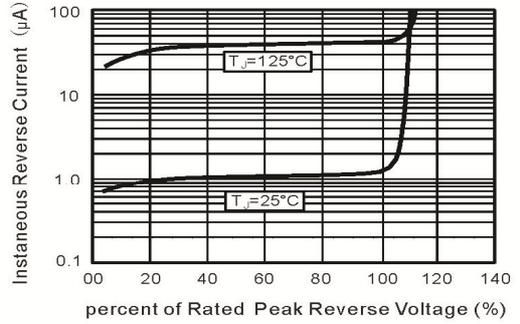
Fig.3 Typical Instaneous Forward
Characteristics

Instaneous Forward Current (A)

T_J=25°C

pulse with 300μs
1% duty cycle

Instaneous Forward Voltage (V)

Fig.4 Typical Junction Capacitance

Junction Capacitance (pF)

T_J=25°C

Reverse Voltage (V)
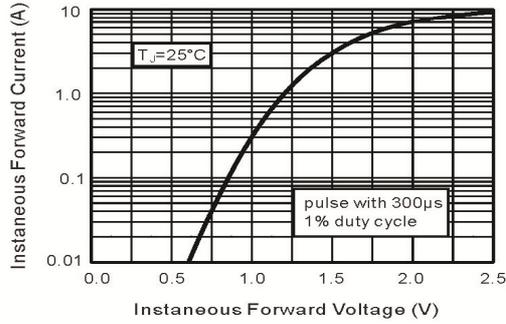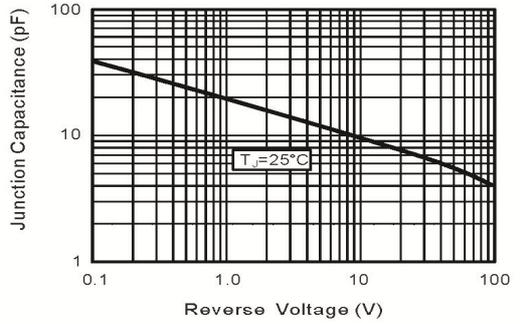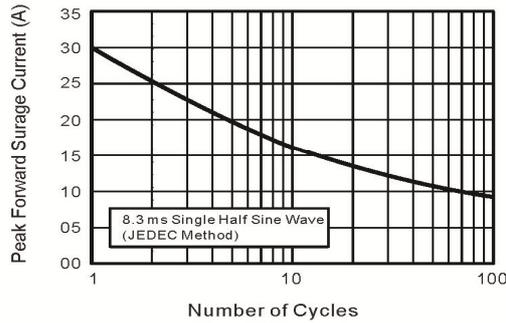
Fig.5 Maximum Non-Repetitive Peak
Forward Surage Current

Peak Forward Surage Current (A)

8.3 ms Single Half Sine Wave
(JEDEC Method)

Number of Cycles

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