

***RS1XF SERIES***

***SURFACE MOUNT FAST RECOVERY RECTIFIER***

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# RS1AF THRU RS1MF

## SURFACE MOUNT FAST RECOVERY RECTIFIER



**REVERSE VOLTAGE:** 50 to 1000 VOLTS  
**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Fast Recovery times for high efficiency
- High temperature soldering : 250°C /10 seconds at terminals

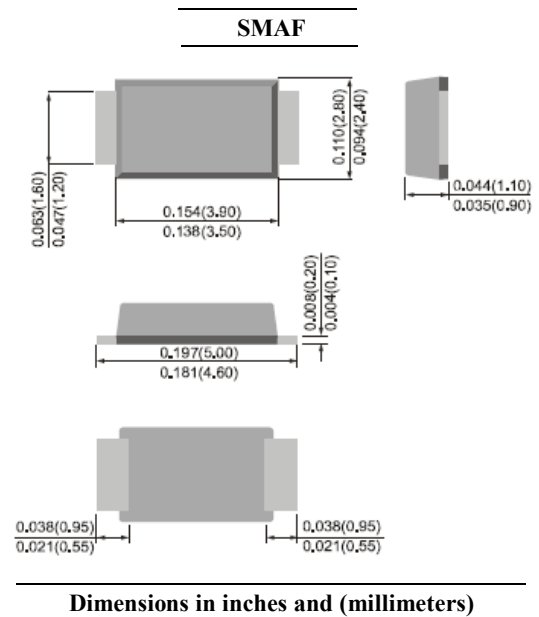
### MECHANICAL DATA

Case: Molded plastic, SMAF

Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 12mm tape per EIA STD RS-481



### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|   | Symbols         | RS1AF       | RS1BF | RS1DF | RS1GF | RS1JF | RS1KF | RS1MF | Units              |
|---|-----------------|-------------|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | Volts              |
| Maximum RMS Voltage   | $V_{RMS}$       | 35          | 70    | 140   | 280   | 420   | 560   | 700   | Volts              |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | Volts              |
| Maximum Average Forward Rectified Current<br>See Fig.1  | $I_{(AV)}$      | 1.0         |       |       |       |       |       |       | Amp                |
| Peak Forward Surge Current,<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method)   | $I_{FSM}$       | 25          |       |       |       |       |       |       | Amp                |
| Maximum Forward Voltage at 1.0A   | $V_F$           | 1.30        |       |       |       |       |       |       | Volts              |
| Maximum Reverse Current at $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage $T_A=125^\circ\text{C}$ | $I_R$           | 5.0<br>50   |       |       |       |       |       |       | $\mu\text{Amp}$    |
| Typical Junction Capacitance (Note 1)   | $C_J$           | 15          |       |       |       | 7     |       |       | pF                 |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JL}$ | 31          |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time (Note 3)  | $T_{RR}$        | 150         |       |       |       | 250   | 500   |       | nS                 |
| Operating Junction Temperature Range  | $T_J$           | -55 to +150 |       |       |       |       |       |       | $^\circ\text{C}$   |
| Storage Temperature Range   | $T_{stg}$       | -55 to +150 |       |       |       |       |       |       | $^\circ\text{C}$   |

### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Mounted on a FR4 PCB, single-sided copper, mini pad.
- 3- Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{RR}=0.25\text{A}$ .

# RS1AF THRU RS1MF

## SURFACE MOUNT FAST RECOVERY RECTIFIER

### RATINGS AND CHARACTERISTIC CURVES

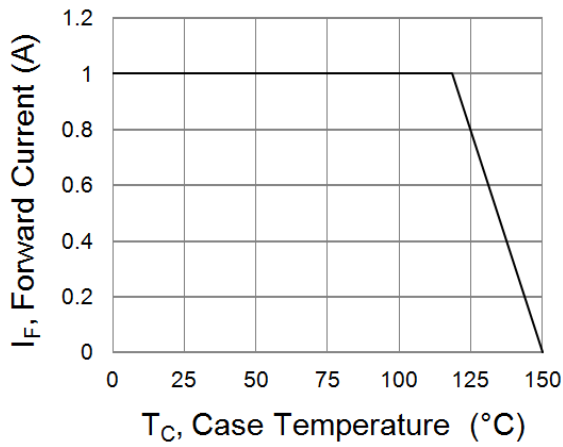


Fig.1 Forward Current Derating Curve

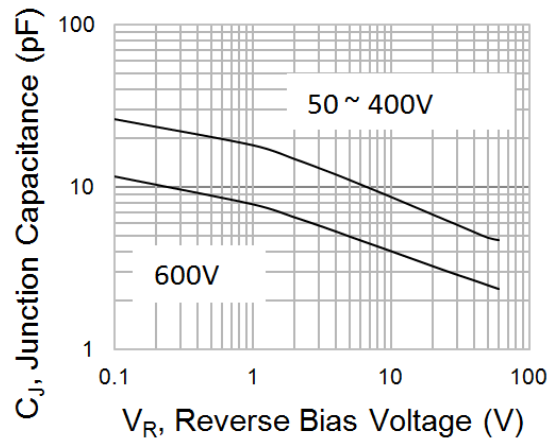


Fig. 2 Typical Junction Capacitance

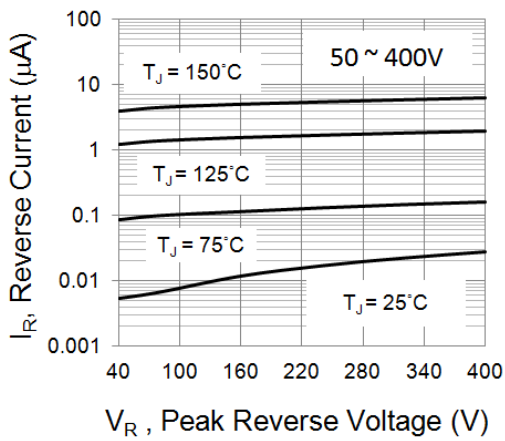


Fig.3 Typical Reverse Characteristics

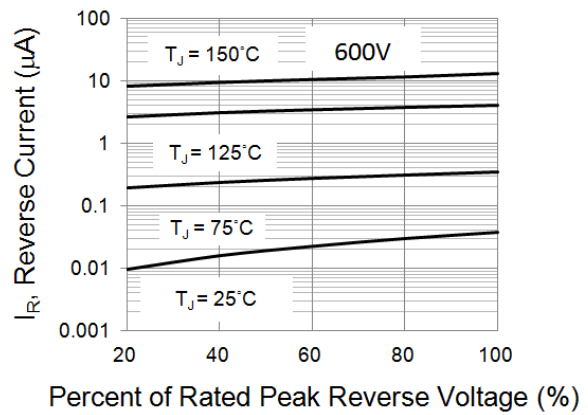


Fig.4 Typical Reverse Characteristics

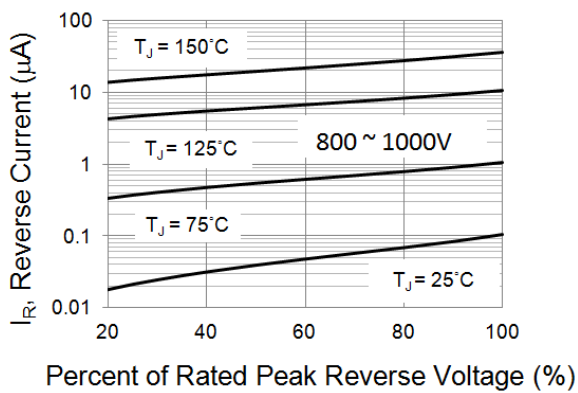


Fig.5 Typical Reverse Characteristics

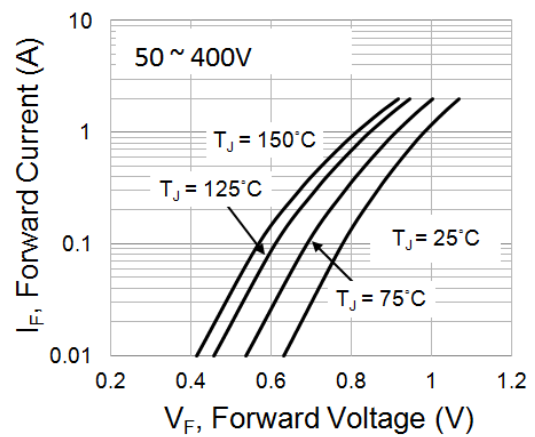


Fig.6 Typical Forward Characteristics