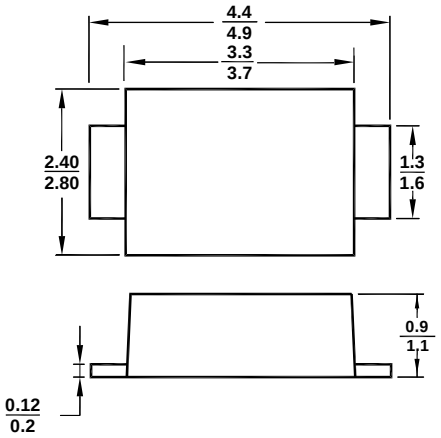
# RS1AF THRU RS1MF

## Surface Mount Fast Recovery Rectifier

**Reverse Voltage - 50 to 1000 V**
**Forward Current - 1 A**

**SMAF**




All Dimensions in mm

### 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

### 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 $T_a$ = 25°C<br>at Rated DC Blocking Voltage $T_a$ = 125°C | $I_R$ | 5<br>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.

Fig.1 Forward Current Derating Curve

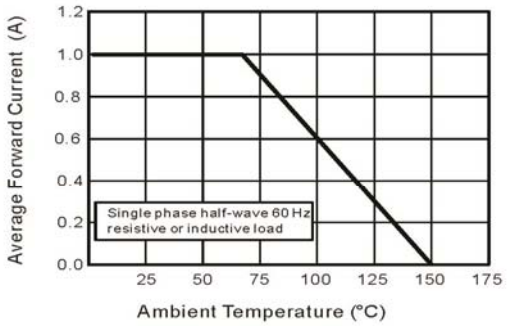



Fig.2 Typical Reverse Characteristics

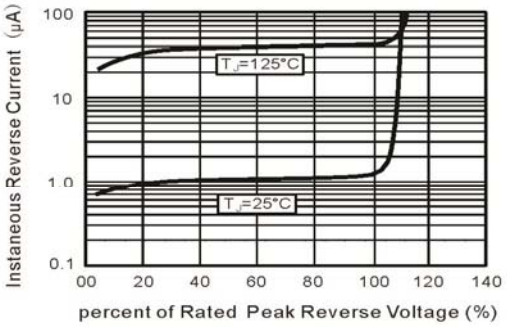



Fig.3 Typical Instaneous Forward Characteristics

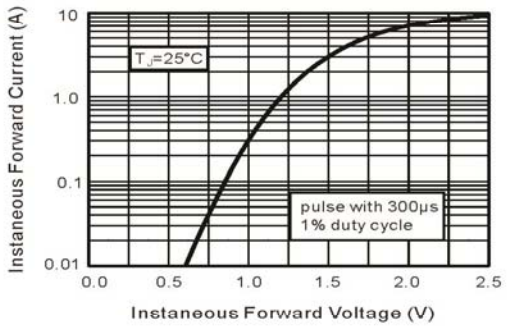



Fig.4 Typical Junction Capacitance

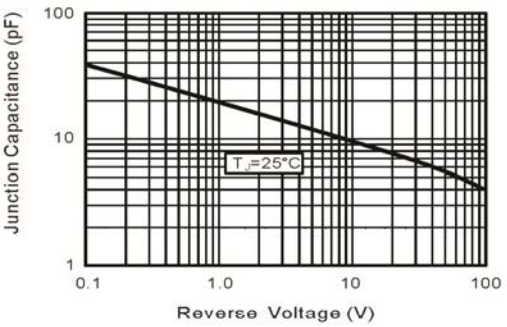



Fig.5 Maximum Non-Repetitive Peak Forward Surage Current