

RS1AF-AT THRU RS1MF-AT

SURFACE MOUNT FAST RECOVERY RECTIFIERS

Forward Current-1A

Reverse Voltage-50V to 1000V

FEATURES

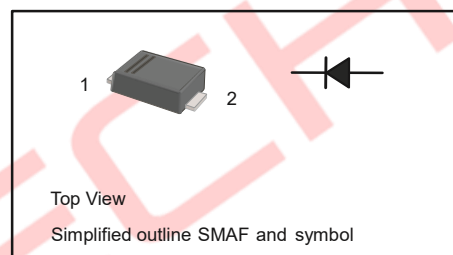
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ Fast reverse recovery time
- ◆ Lead free in comply with EU RoHS2011/65/EU directives

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |

MECHANICAL DATA

- ◆ Case: SMAF molded plastic body
- ◆ Terminals: Solderable per MIL-STD-750 , Method 2026
- ◆ Weight: Approximated 0.027 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

| PARAMETER | SYMBOL | RS1AF -AT | RS1BF -AT | RS1DF -AT | RS1GF -AT | RS1JF -AT | RS1KF -AT | RS1MF -AT | 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 $T_C=125^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current (Note1) | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1.0 A | V_F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage at $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$ | I_R | 5 100 | | | | | | | μA |
| Typical Junction Capacitance at $V_R=4\text{V}$, $f=1\text{MHz}$ | C_J | 15 | | | | | | | pF |
| Maximum Reverse Recovery Time (Note2) | T_{rr} | 150 | | | | 250 | 500 | nS | |
| Typical Thermal Resistance (Note3) | $R_{\theta JA}$ | 80 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).

2. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $J_{rr}=0.25\text{A}$.

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

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RATINGS AND CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

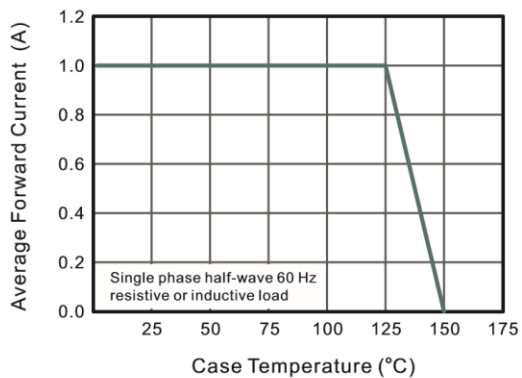


Fig.2 Typical Reverse Characteristics

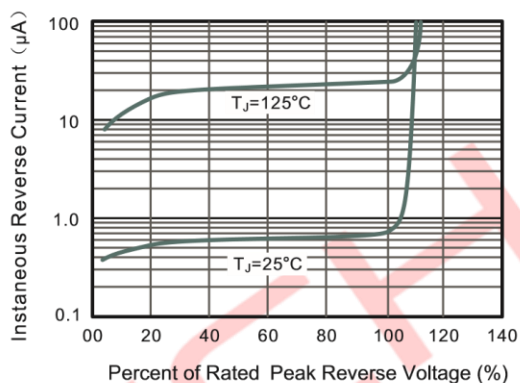


Fig.3 Typical Instantaneous Forward Characteristics

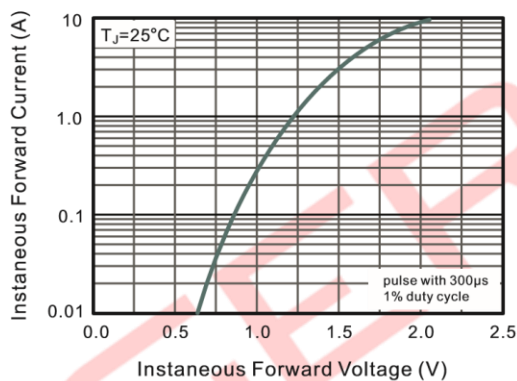


Fig.4 Typical Junction Capacitance

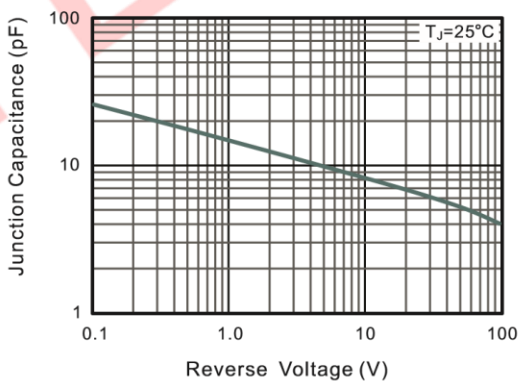
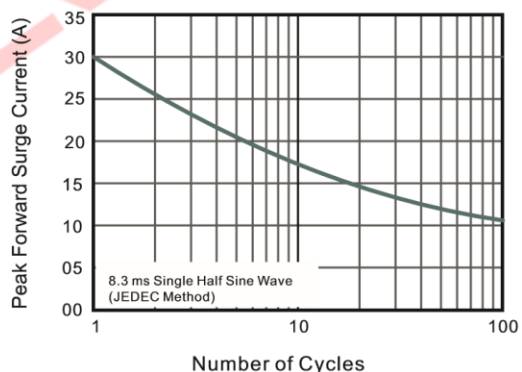


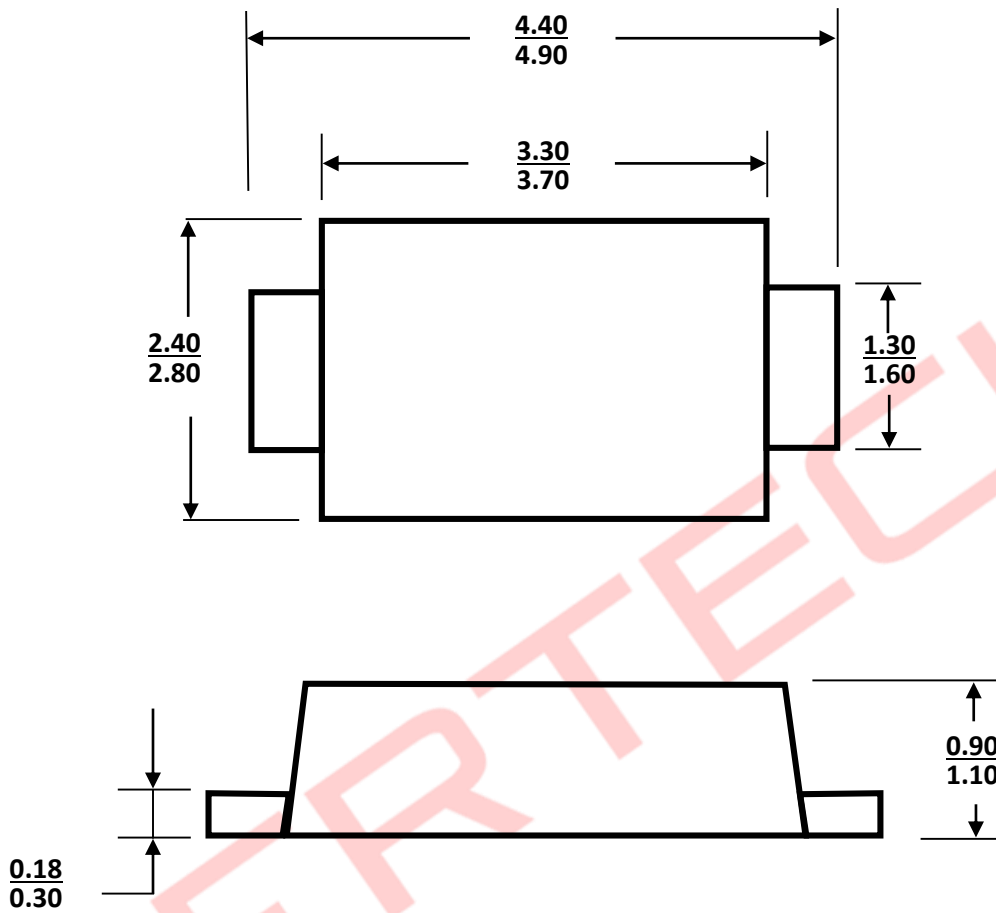
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



RS1AF-AT THRU RS1MF-AT

PACKAGE OUTLINE

SMAF



Dimensions in millimeters

ORDERING INFORMATION

| Device | Package | Shipping |
|------------------------|---------|---------------------------------|
| RS1AF-AT thru RS1MF-AT | SMAF | 3,000/Tape & Reel (7 inches) |
| | | 10,000/ Tape & Reel (13 inches) |

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