

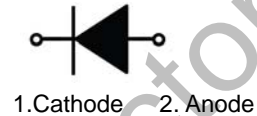


RS1AF-RS1MF

Features:

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

SMAF



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, derate current by 20%.

| Parameter | Symbols | RS1AF | RS1BF | RS1DF | RS1GF | RS1JF | RS1KF | RS1MF | Units |
|--|-----------------|------------|-------|-------|-------|-------|-------|-------|--------------------|
| 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 $T_c = 125\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | V_F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5 50 | | | | | | | μA |
| Typical Junction Capacitance at $V_R = 4\text{V}$, $f = 1\text{MHz}$ | C_j | 15 | | | | | | | pF |
| Maximum Reverse Recovery Time ⁽¹⁾ | t_{rr} | 150 | | | | 250 | 500 | | ns |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ | 80 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^\circ\text{C}$ |

(1) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

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

Typical Characteristics

Fig.1 Forward Current Derating Curve

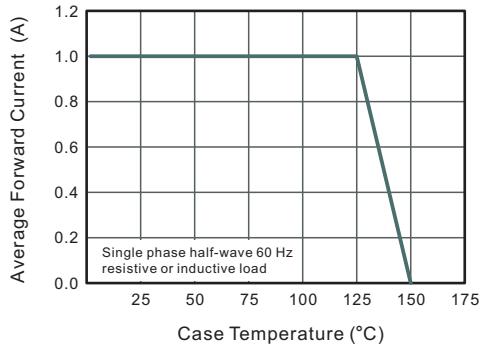


Fig.2 Typical Reverse Characteristics

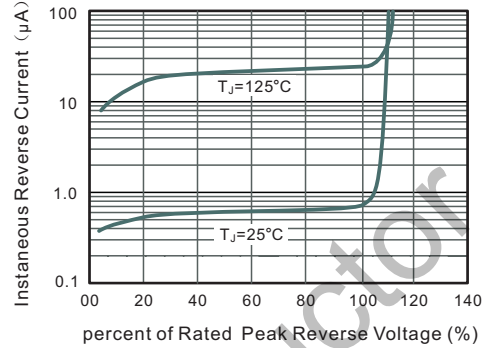


Fig.3 Typical Instantaneous Forward Characteristics

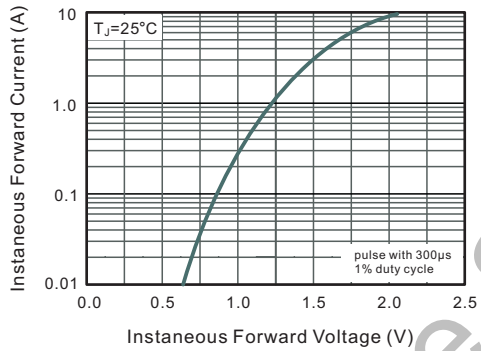


Fig.4 Typical Junction Capacitance

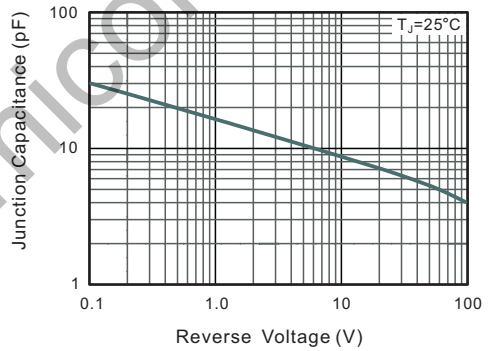
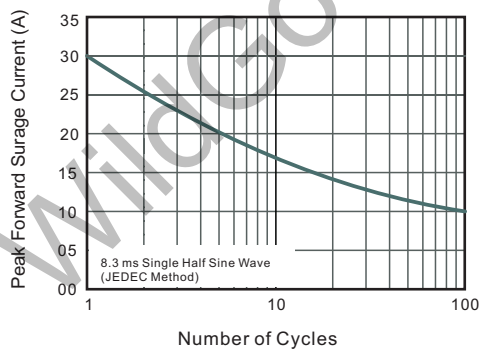


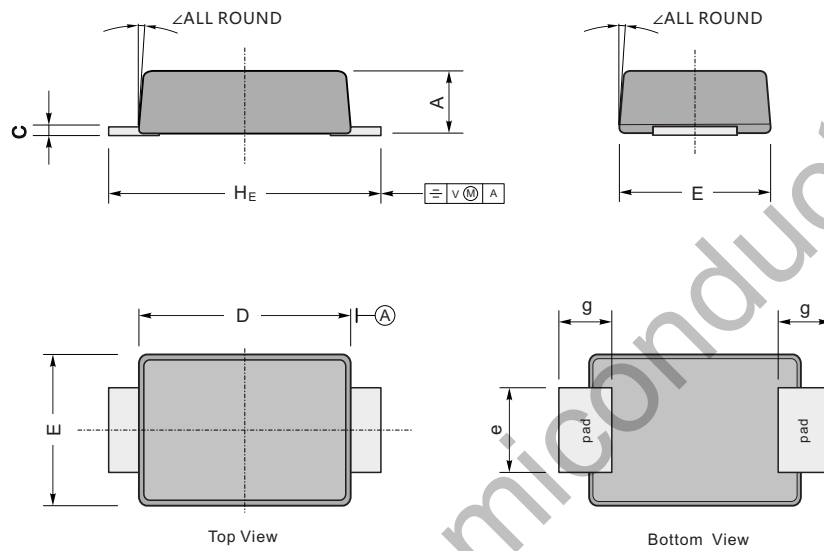
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Dimension

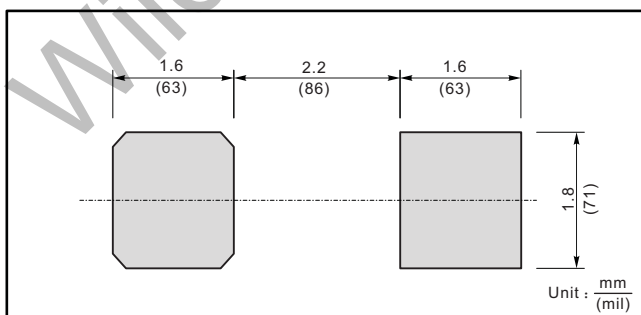
SMAF

Unit: mm



| UNIT | | A | C | D | E | e | g | H _E | ∠ |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm | max | 1.2 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9 | 7° |
| | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4 | |
| mil | max | 47 | 7.9 | 146 | 106 | 63 | 47 | 193 | |
| | min | 35 | 4.7 | 130 | 94 | 51 | 31 | 173 | |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| RS1AF | RS1A |
| RS1BF | RS1B |
| RS1DF | RS1D |
| RS1GF | RS1G |
| RS1JF | RS1J |
| RS1KF | RS1K |
| RS1MF | RS1M |

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