

OM SENI

SMAF Surface Mount Fast Recovery Rectifier

Features

- Low profile package
- Ideal for automated placement
- Glass passivated pallet chip junction
- Fast reverse recovery time
- Fast switching for high efficiency
- High forward surge capability

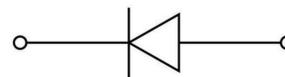
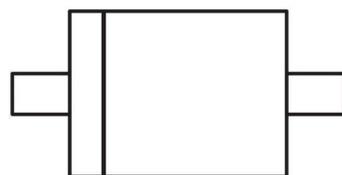
Applications

For use in fast switching rectification of power supplies, inverters, converters, and free wheeling diodes for consumer, and telecommunication.

Mechanical Data

- Case: SMAF
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram



RS3AF THRU RS3MF

Reverse Voltage

50-1000 V

Forward Current

3 Ampere



SMAF

Maximum Ratings (Ta=25°C Unless otherwise specified)

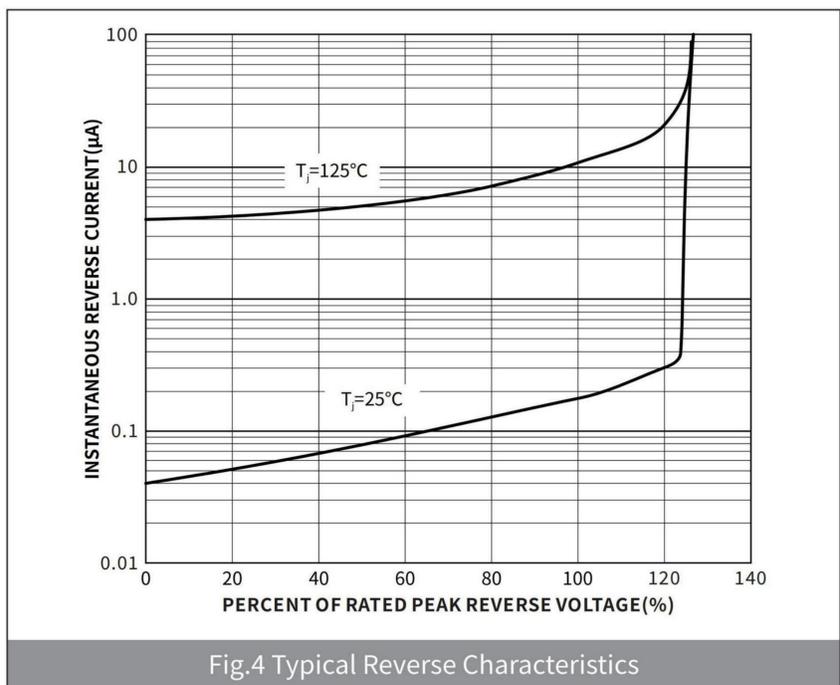
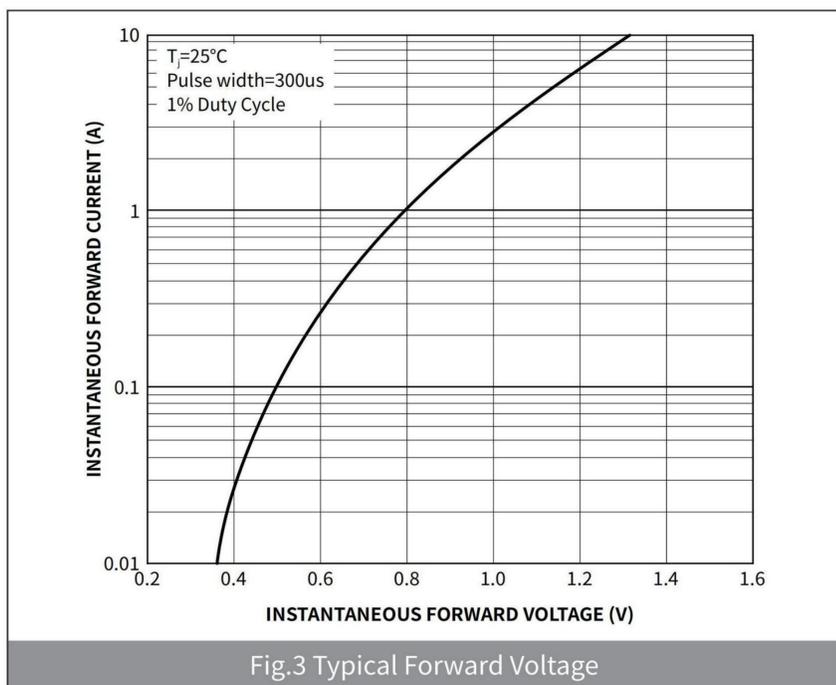
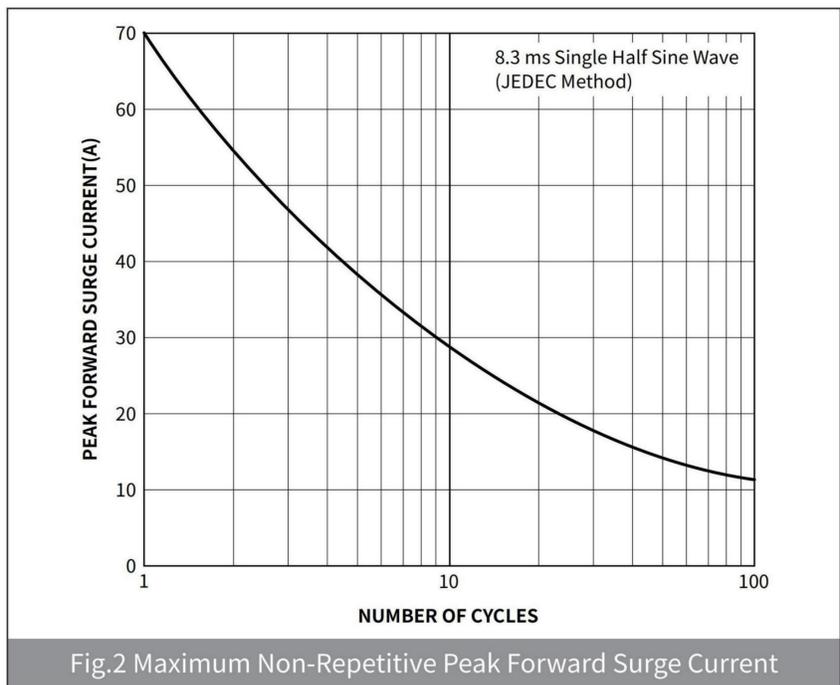
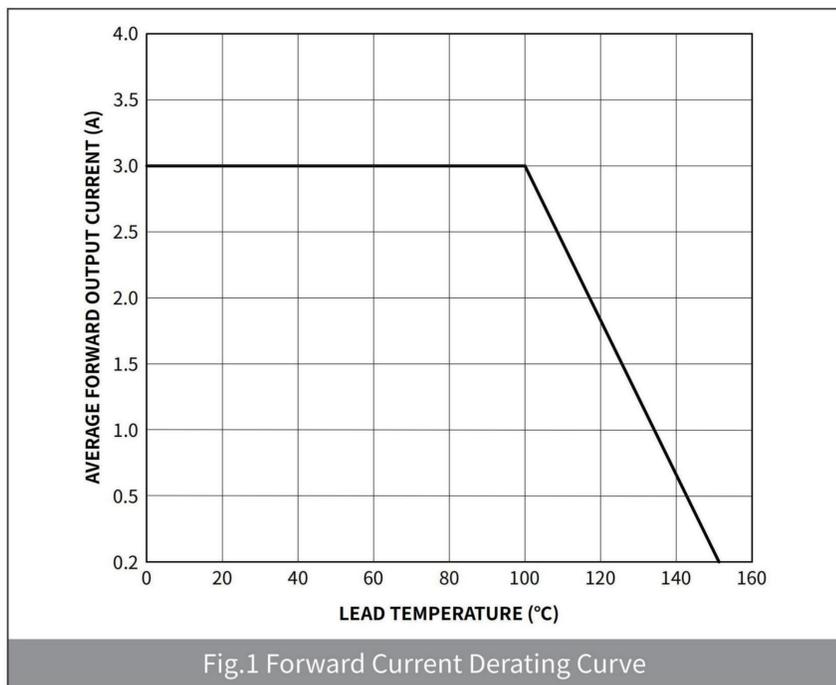
| PARAMETER | SYMBOL | UNIT | RS3AF | RS3BF | RS3DF | RS3GF | RS3JF | RS3KF | RS3MF |
|---|------------------|-------|------------|-------|-------|-------|-------|-------|-------|
| Device marking code | | | RS3AF | RS3BF | RS3DF | RS3GF | RS3JF | RS3KF | RS3MF |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | V_{RMS} | V | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC blocking Voltage | V_{DC} | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum Average Forward Rectified Current @ 60Hz sine wave, Resistance load, TL (Fig.1) | $I_{F(AV)}$ | A | 3.0 | | | | | | |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave | I_{FSM} | A | 70 | | | | | | |
| Storage temperature | T_{stg} | °C | -55 ~ +150 | | | | | | |
| Junction temperature | T_j | °C | -55 ~ +150 | | | | | | |
| Typical Thermal Resistance | $R_{\theta J-A}$ | °C /W | 70 | | | | | | |
| | $R_{\theta J-L}$ | °C /W | 23 | | | | | | |

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Electrical Characteristics (Ta=25°C Unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | UNIT | RS3AF | RS3BF | RS3DF | RS3GF | RS3JF | RS3KF | RS3MF |
|---|------------------------------------|----------|---------|-------|-------|-------|-------|-------|-------|-------|
| Maximum instantaneous forward voltage | $I_F=3.0A$ | V_F | V | 1.3 | | | | | | |
| Maximum reverse recovery time | $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$ | T_{rr} | ns | 150 | | | | 250 | 500 | |
| Maximum DC reverse current at rated DC blocking voltage | $V_R=V_{DC}, T_A=25^\circ C$ | I_{R1} | μA | 5.0 | | | | | | |
| | $V_R=V_{DC}, T_A=125^\circ C$ | I_{R2} | | 500 | | | | | | |
| Typical junction capacitance | 4.0V DC, 1MHz | C_J | pF | 48 | | | | | | |

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



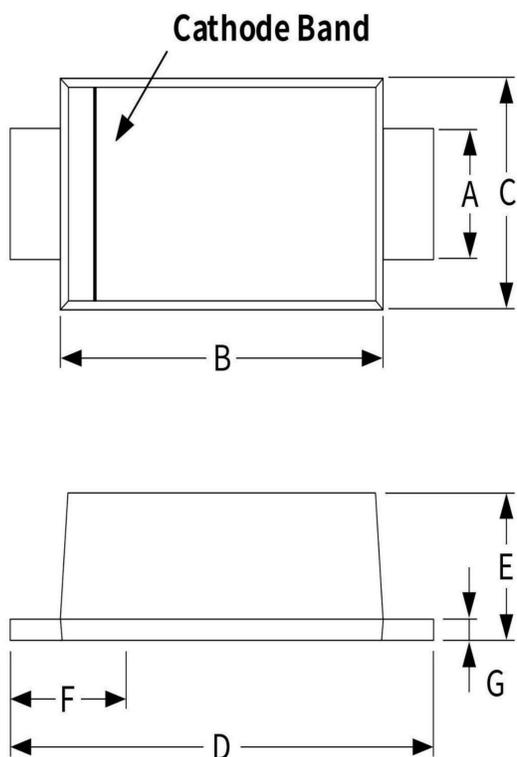
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Ordering Information

| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---------|--------------|----------------|-----------|----------|-------------|---------------|
| SMAF | R1 | 0.034 | 3000 | 12000 | 120000 | 7" |
| SMAF | R2 | 0.034 | 7500 | 15000 | 75000 | 11" |
| SMAF | R3 | 0.034 | 7500 | 15000 | 75000 | 13" |

Package Outline Dimensions (SMAF)

| Symbol | Dimensions | | | |
|--------|-------------|------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 1.30 | 1.60 | 0.051 | 0.063 |
| B | 3.30 | 3.70 | 0.129 | 0.145 |
| C | 2.40 | 2.70 | 0.094 | 0.105 |
| D | 4.40 | 4.90 | 0.172 | 0.191 |
| E | 0.90 | 1.20 | 0.035 | 0.047 |
| F | 0.80 | 1.20 | 0.031 | 0.047 |
| G | 0.12 | 0.20 | 0.005 | 0.008 |



Suggested Pad Layout

| Symbol | Dimensions | | | |
|--------|-------------|------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| M | 1.80 | - | 0.070 | - |
| J | 1.60 | - | 0.063 | - |
| K | - | 2.2 | - | 0.086 |

