

**Surface Mount General Purpose Silicon Rectifiers****Reverse Voltage - 1000 V****Forward Current - 1 A****FEATURES**

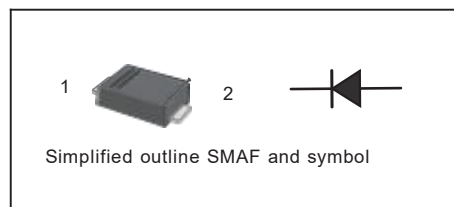
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg / 0.00095oz

**PINNING**

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

**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 derate by 20 %.

| Parameter                                                                                                      | Symbols         | S1MF       | Units              |
|----------------------------------------------------------------------------------------------------------------|-----------------|------------|--------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                        | $V_{RRM}$       | 1000       | V                  |
| Maximum RMS voltage                                                                                            | $V_{RMS}$       | 700        | V                  |
| Maximum DC Blocking Voltage                                                                                    | $V_{DC}$        | 1000       | V                  |
| Maximum Average Forward Rectified Current at $T_c = 125^\circ\text{C}$                                         | $I_{F(AV)}$     | 1          | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                             | $I_{FSM}$       | 30         | A                  |
| Maximum Instantaneous Forward Voltage at 1 A                                                                   | $V_F$           | 1.1        | V                  |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ Cat<br>Rated DC Blocking Voltage $T_a = 125^\circ\text{C}$ | $I_R$           | 5<br>50    | $\mu\text{A}$      |
| Typical Junction Capacitance ( 1 )                                                                             | $C_j$           | 15         | pF                 |
| 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 at 1 MHz and applied reverse voltage of 4 V D.C

( 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

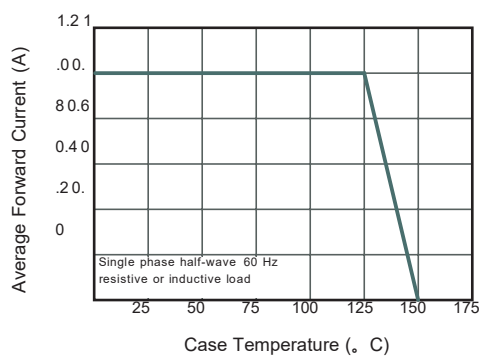


Fig.2 Typical Instantaneous Reverse Characteristics

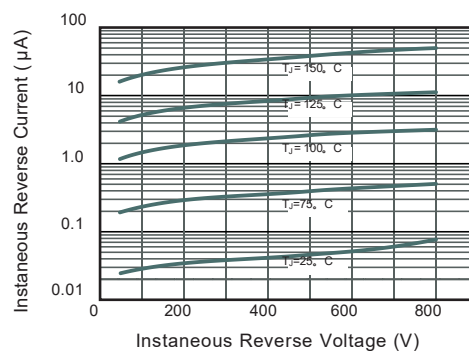


Fig.3 Typical Forward Characteristic

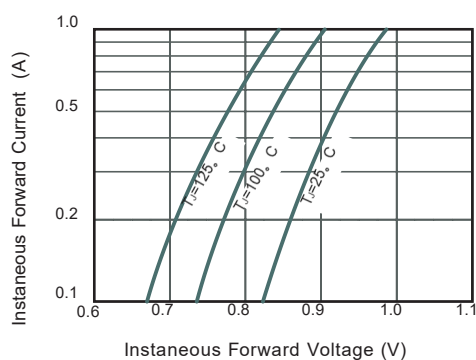


Fig.4 Typical Junction Capacitance

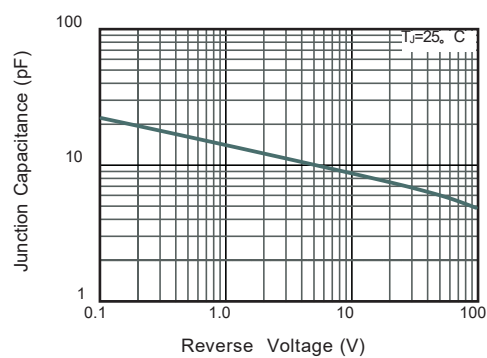
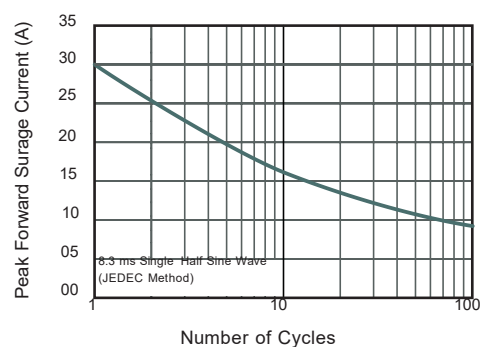


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

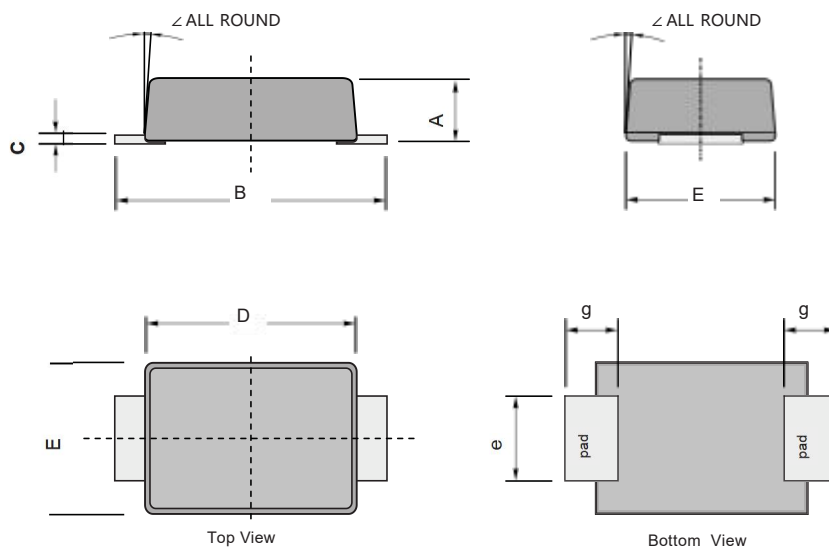




## PACKAGE OUTLINE

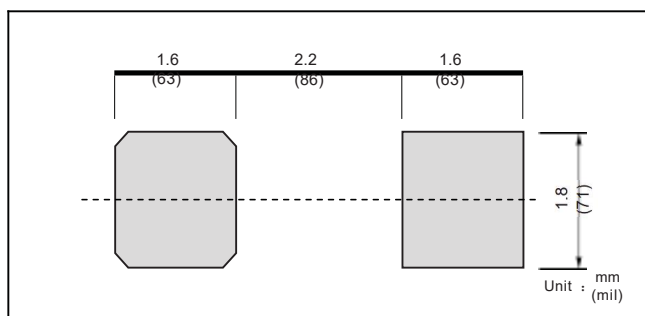
Plastic surface mounted package; 2 leads

SMAF



| UNIT |     | A   | C    | D   | E   | e   | g   | B   | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|-----|----|
| mm   | max | 1.2 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9 | 5° |
|      | 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 |
|-------------|--------------|
| S1MF        | S1MF         |