

Surface Mount General Purpose Silicon Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

FEATURES

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Ideal for automated placement
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

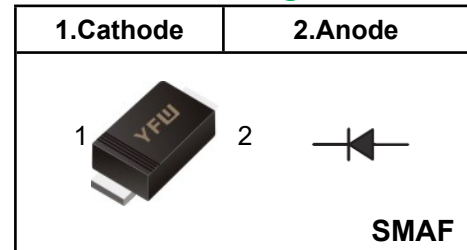
- ◆ Case: SMAF
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 27mg / 0.00095oz

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 %.

Pinning



Marking Code

| | |
|-------------|----------------|
| S1AF | YFW S1A |
| S1BF | YFW S1B |
| S1DF | YFW S1D |
| S1GF | YFW S1G |
| S1JF | YFW S1J |
| S1KF | YFW S1K |
| S1MF | YFW S1M |

| Parameter | Symbols | S1AF | S1BF | S1DF | S1GF | S1JF | S1KF | S1MF | 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 Instantaneous Forward Voltage at 1 A | V_F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5 50 | | | | | | | μA |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 15 | | | | | | | pF |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}, R_{\theta JC}$ | 80/27 | | | | | | | $^\circ\text{C/W}$ |
| 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.

Fig.1 Forward Current Derating Curve

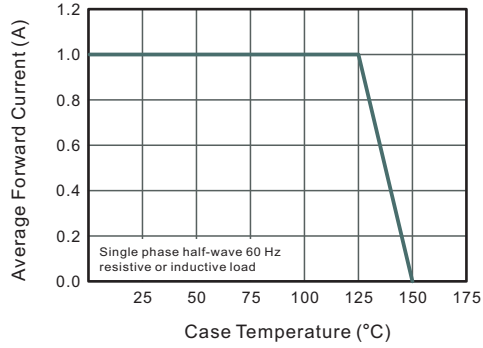


Fig.2 Typical Instantaneous Reverse Characteristics

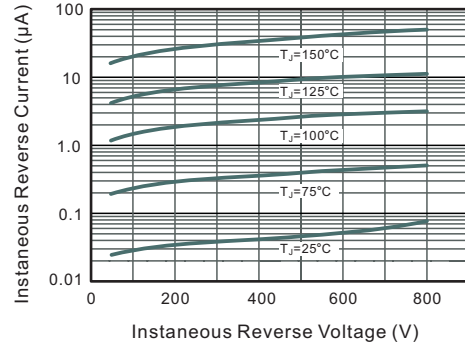


Fig.3 Typical Forward Characteristic

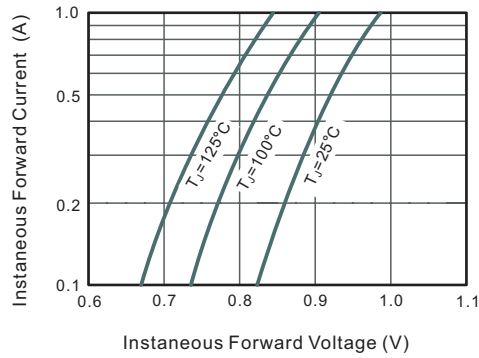


Fig.4 Typical Junction Capacitance

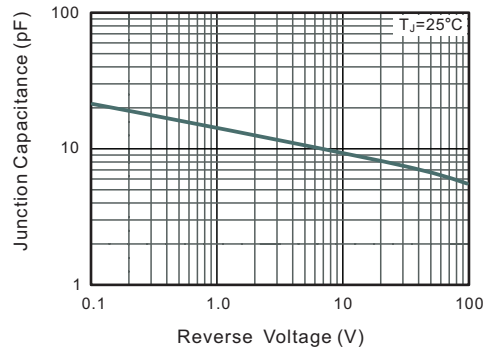
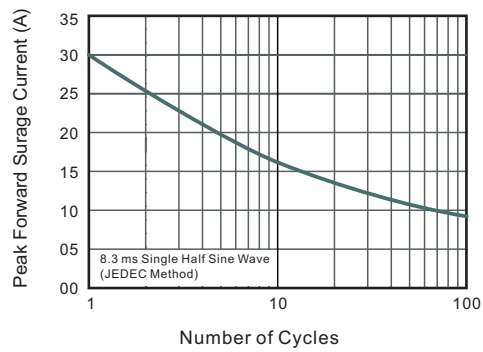
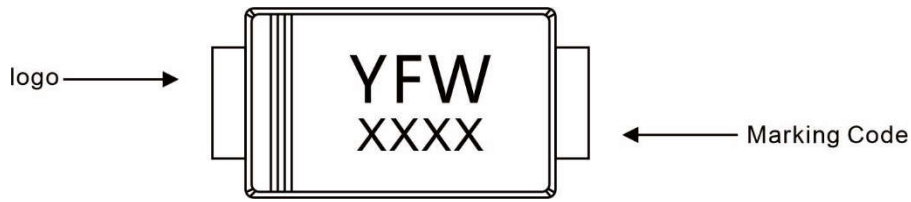


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Marking Diagram



Ordering information

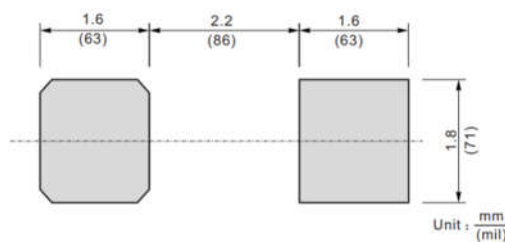
| Package | Packing Description | Packing Quantity |
|---------|---------------------|------------------------------|
| SMAF | Tape/Reel, 7" reel | 3000PCS/Reel 90000PCS/Carton |

Package Dimensions

SMAF

| Dim. | Millimeter(mm) | | mil | |
|------|----------------|------|------|------|
| | Min. | Max. | Min. | Max. |
| A | 0.9 | 1.1 | 35 | 43 |
| C | 0.12 | 0.20 | 4.7 | 7.9 |
| D | 3.3 | 3.7 | 130 | 146 |
| E | 2.4 | 2.7 | 94 | 106 |
| e | 1.3 | 1.6 | 51 | 63 |
| g | 0.8 | 1.2 | 31 | 47 |
| HE | 4.4 | 4.9 | 173 | 193 |
| ∠ | 7° | | | |

The recommended mounting pad size



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