

## Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 20 to 200 V

Forward Current - 1.0 A

### FEATURES

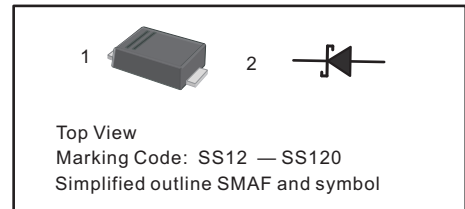
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### MECHANICAL DATA

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

### PINNING

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



### Absolute Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

| Parameter  | Symbols         | SS12F      | SS14F | SS16F | SS18F    | SS110F | SS112F   | SS115F | SS120F | Units |
|--|-----------------|------------|-------|-------|----------|--------|----------|--------|--------|-------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 20         | 40    | 60    | 80       | 100    | 120      | 150    | 200    | V     |
| Maximum RMS voltage  | $V_{RMS}$       | 14         | 28    | 42    | 56       | 70     | 84       | 105    | 140    | V     |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 20         | 40    | 60    | 80       | 100    | 120      | 150    | 200    | V     |
| Maximum Average Forward Rectified Current  | $I_{F(AV)}$     | 1.0        |       |       |          |        |          |        |        | A     |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)            | $I_{FSM}$       | 30         |       |       |          |        |          |        |        | A     |
| Max Instantaneous Forward Voltage at 1 A   | $V_F$           | 0.55       | 0.70  |       | 0.85     |        | 0.90     |        | V      |       |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$<br>at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$ | $I_R$           | 0.3<br>10  |       |       | 0.2<br>5 |        | 0.1<br>2 |        | mA     |       |
| Typical Junction Capacitance <sup>(1)</sup>  | $C_j$           | 110        | 80    |       |          |        |          |        |        | pF    |
| Typical Thermal Resistance <sup>(2)</sup>  | $R_{\theta JA}$ | 95         |       |       |          |        |          |        |        | °C/W  |
| Operating Junction Temperature Range   | $T_j$           | -55 ~ +150 |       |       |          |        |          |        |        | °C    |
| Storage Temperature Range  | $T_{stg}$       | -55 ~ +150 |       |       |          |        |          |        |        | °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

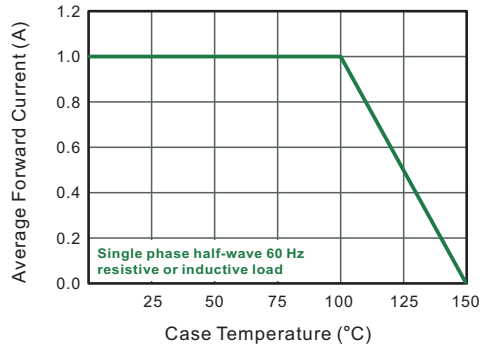


Fig.2 Typical Reverse Characteristics

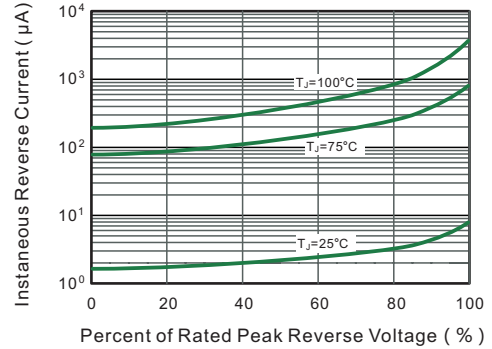


Fig.3 Typical Forward Characteristic

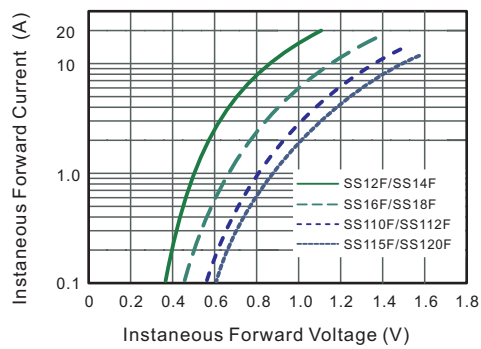


Fig.4 Typical Junction Capacitance

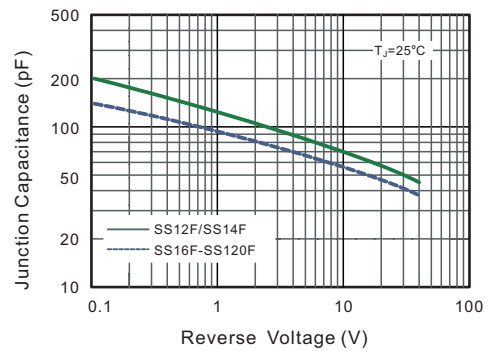


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

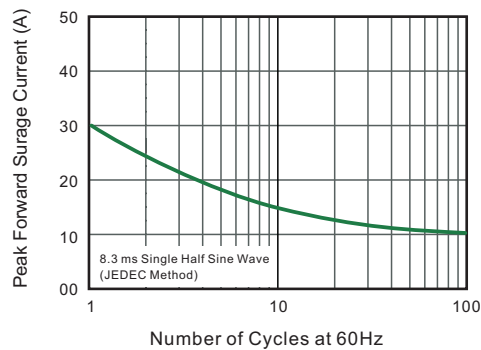
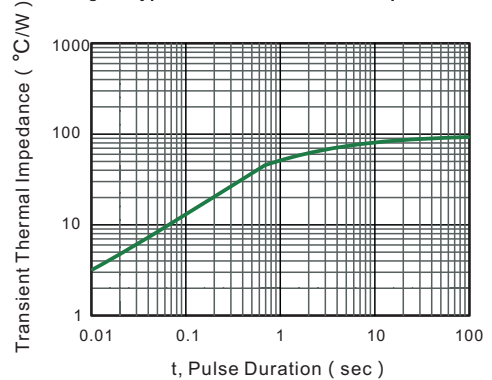


Fig.6- Typical Transient Thermal Impedance

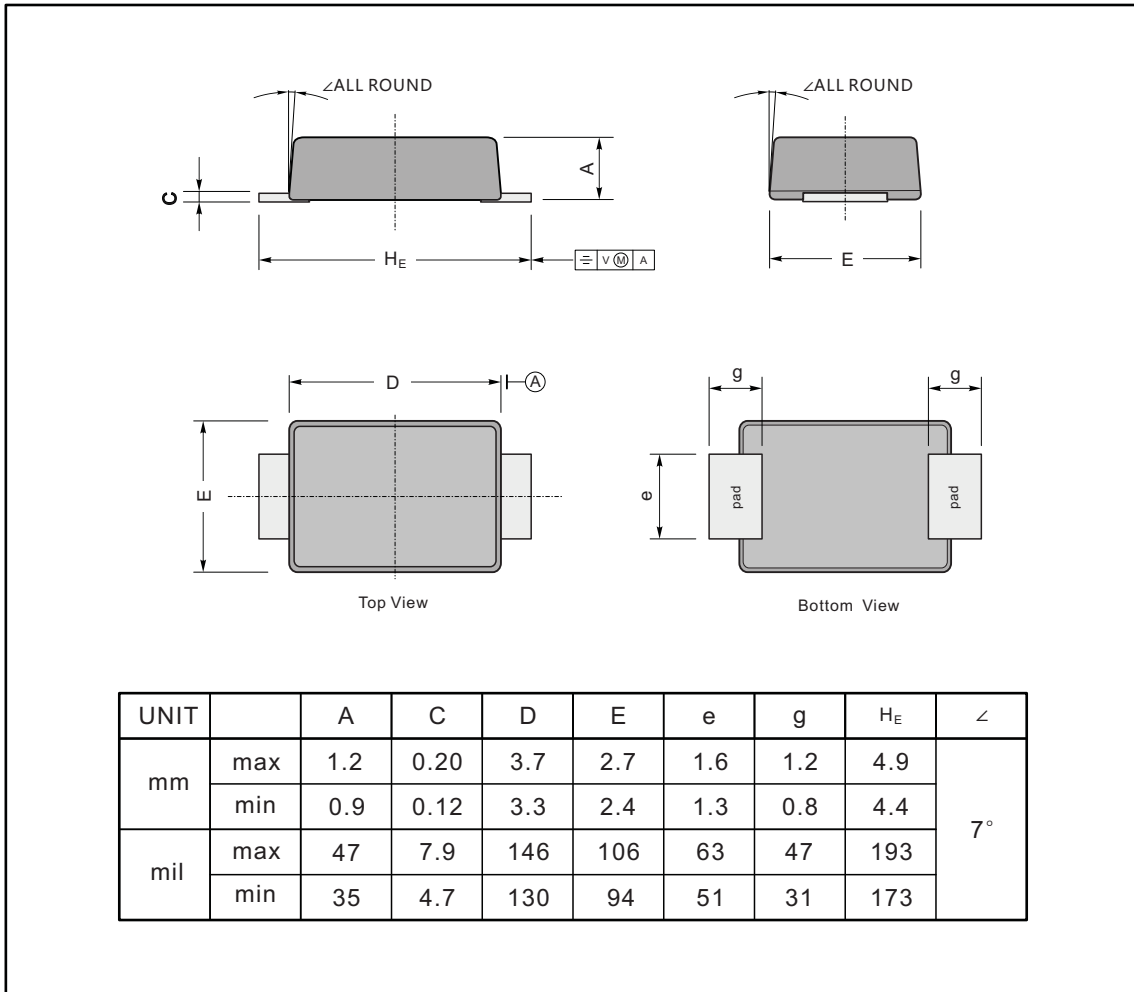




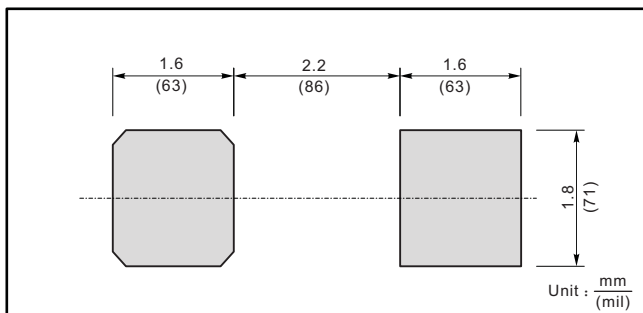
**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

SMAF



**The recommended mounting pad size**



**Marking**

| Type number | Marking code |
|-------------|--------------|
| SS12F       | SS12         |
| SS14F       | SS14         |
| SS16F       | SS16         |
| SS18F       | SS18         |
| SS110F      | SS110        |
| SS112F      | SS112        |
| SS115F      | SS115        |
| SS120F      | SS120        |