

Surface Mount Schottky Barrier Rectifier
 Reverse Voltage - 20 to 200 V
 Forward Current - 3.0A

FEATURES

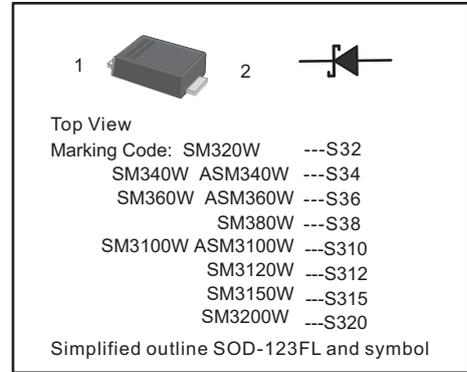
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

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 | SM320W | SM340W SM340W ⁽³⁾ | SM360W SM360W ⁽³⁾ | SM380W | SM3100W ⁽³⁾ ASM3100W | SM3120W | SM3150W | SM3200W | 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 | $I_{F(AV)}$ | 3.0 | | | | | | | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 80 | | | | | | | | A |
| Max Instantaneous Forward Voltage at 3 A | V_F | 0.55 | 0.70 | | 0.85 | | 0.95 | | V | |
| Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Reverse Voltage $T_a = 100^\circ\text{C}$ | I_R | 0.5 10 | 0.3 5 | | | | mA | | | |
| Typical Junction Capacitance ⁽¹⁾ | C_j | 250 | 160 | | | | pF | | | |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ | 80 | | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range | T_j | -55 ~ +125 | | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | 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.

(3) "A" prefix for automotive applications, meets AEC-Q101.

Fig.1 Forward Current Derating Curve

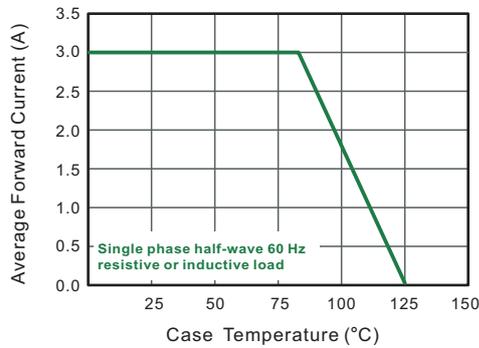


Fig.2 Typical Reverse Characteristics

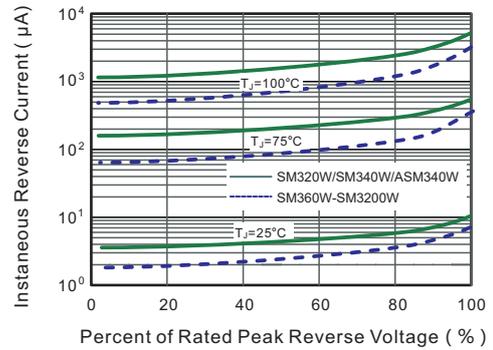


Fig.3 Typical Forward Characteristic

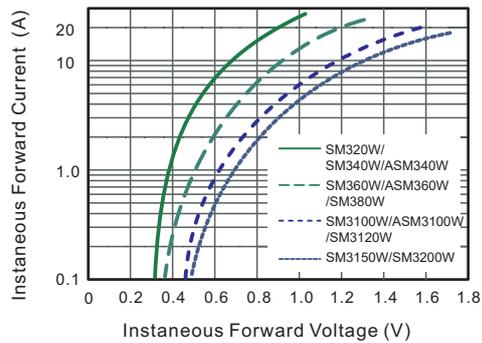


Fig.4 Typical Junction Capacitance

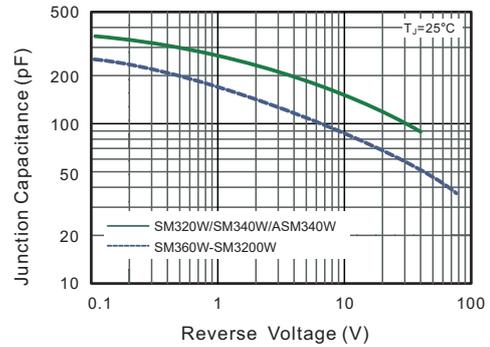


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

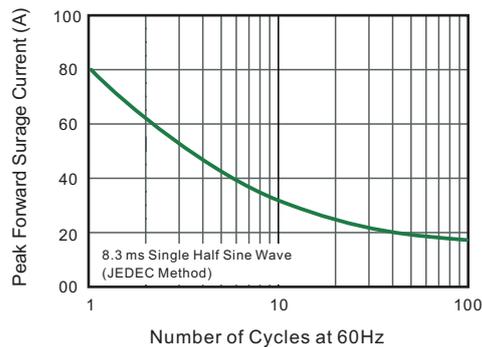
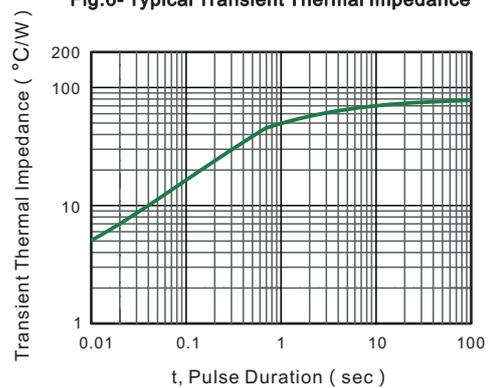


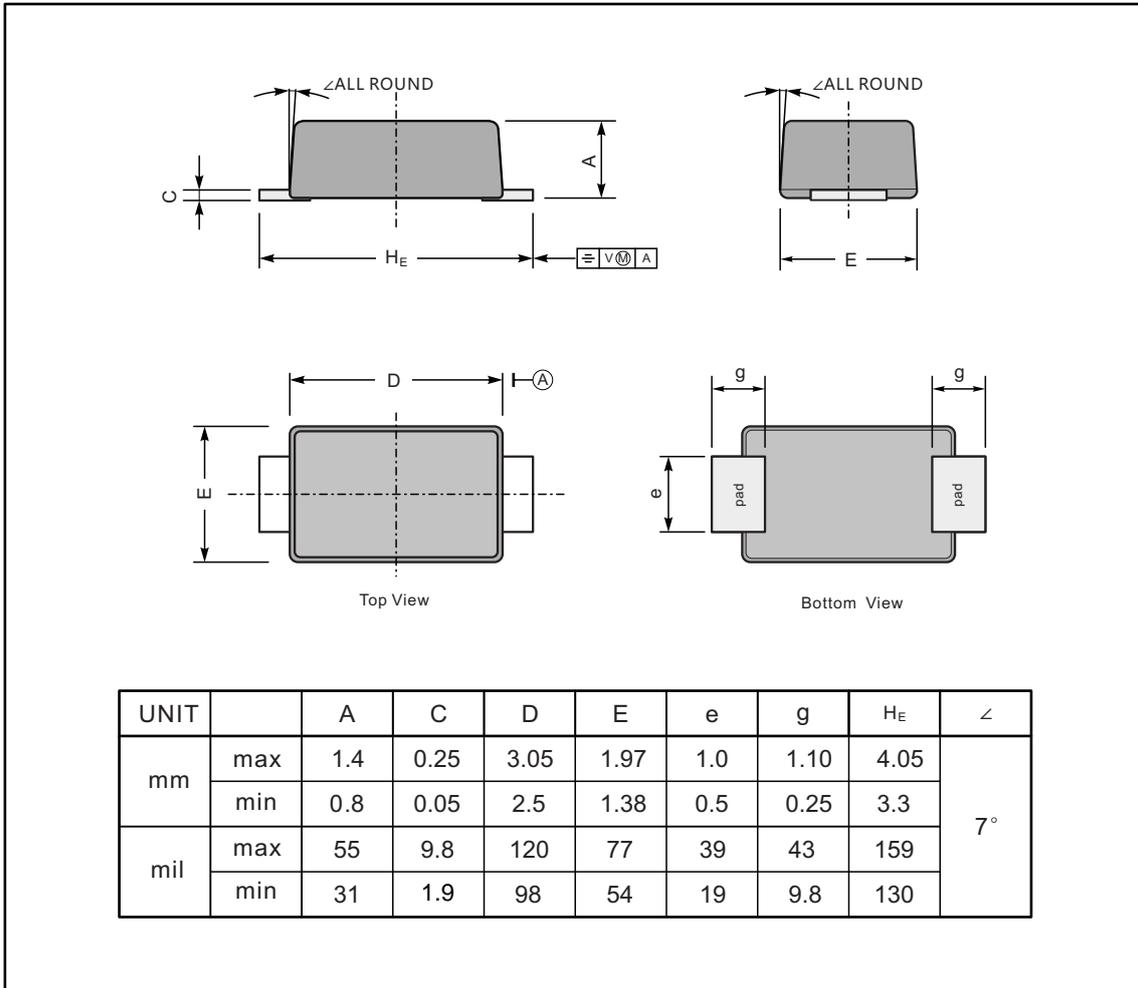
Fig.6- Typical Transient Thermal Impedance



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size

