



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

## PINNING

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

## 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

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            | DSS32      | DSS34 | DSS36      | DSS38 | DSS310 | DSS312 | DSS315 | DSS320 | Units |
|----------------------------------------------------------------------------------------------------|--------------------|------------|-------|------------|-------|--------|--------|--------|--------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                            | V <sub>RRM</sub>   | 20         | 40    | 60         | 80    | 100    | 120    | 150    | 200    | V     |
| Maximum RMS voltage                                                                                | V <sub>RMS</sub>   | 14         | 28    | 42         | 56    | 70     | 84     | 105    | 140    | V     |
| Maximum DC Blocking Voltage                                                                        | V <sub>DC</sub>    | 20         | 40    | 60         | 80    | 100    | 120    | 150    | 200    | V     |
| Maximum Average Forward Rectified Current                                                          | I <sub>F(AV)</sub> | 3.0        |       |            |       |        |        |        |        | A     |
| Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)   | I <sub>FSM</sub>   | 80         |       |            |       |        |        |        |        | A     |
| Max Instantaneous Forward Voltage at 3 A                                                           | V <sub>F</sub>     | 0.55       |       | 0.70       |       | 0.85   |        | 0.95   |        | V     |
| Maximum DC Reverse Current T <sub>a</sub> = 25°C at Rated DC Reverse Voltage T <sub>a</sub> =100°C | I <sub>R</sub>     | 0.5<br>10  |       | 0.3<br>5   |       |        |        |        | mA     |       |
| Typical Junction Capacitance <sup>(1)</sup>                                                        | C <sub>j</sub>     | 250        |       | 160        |       |        |        |        |        | pF    |
| Typical Thermal Resistance <sup>(2)</sup>                                                          | R <sub>θJA</sub>   | 80         |       |            |       |        |        |        |        | °C/W  |
| Operating Junction Temperature Range                                                               | T <sub>j</sub>     | -55 ~ +125 |       | -55 ~ +150 |       |        |        |        |        | °C    |
| Storage Temperature Range                                                                          | T <sub>stg</sub>   | -55 ~ +150 |       |            |       |        |        |        |        | °C    |

(1) Measured at 1 MHz and applied reverse voltage of 4 VDC

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



Top View

Simplified outline SOD-123FL and symbol



Fig.1 Forward Current Derating Curve

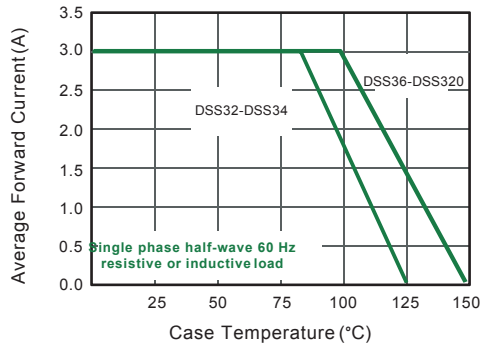


Fig.2 Typical Reverse Characteristics

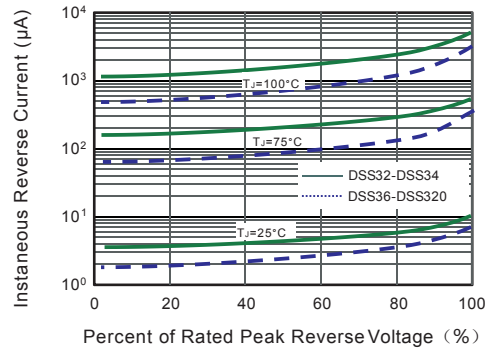


Fig.3 Typical Forward Characteristic

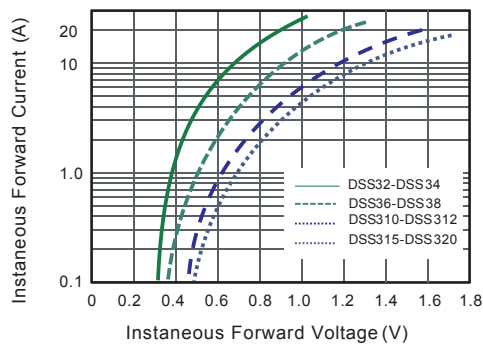


Fig.4 Typical Junction Capacitance

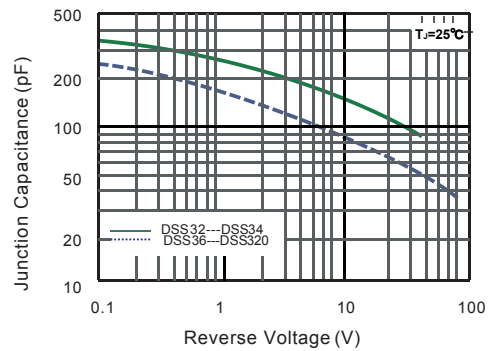


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

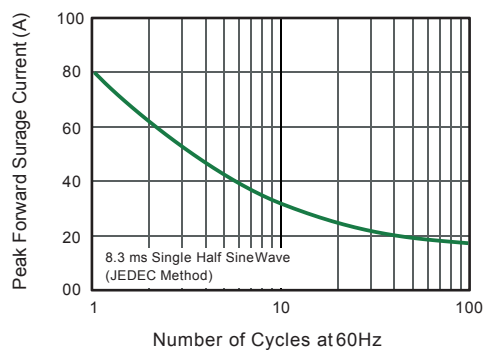
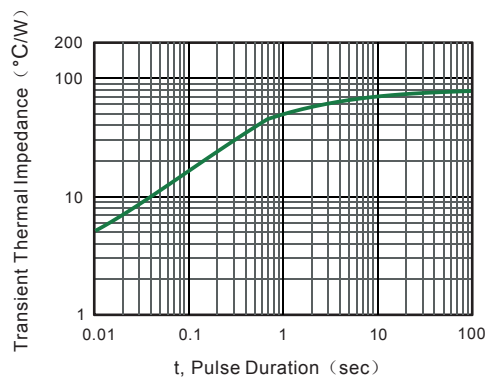


Fig.6- Typical Transient Thermal Impedance

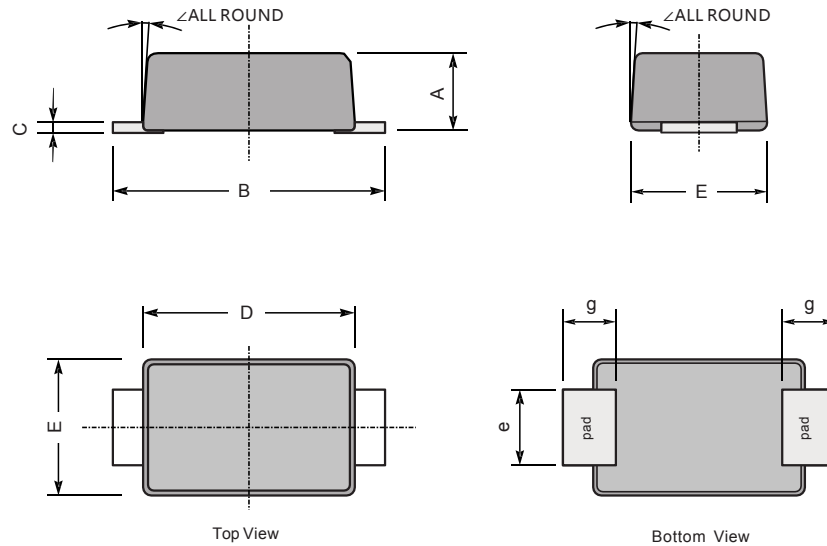




## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

**SOD-123FL**



| UNIT |     | A    | C    | D   | E    | e   | g   | B   | ∠  |
|------|-----|------|------|-----|------|-----|-----|-----|----|
| mm   | max | 1.15 | 0.20 | 2.8 | 2.0  | 1.2 | 0.9 | 3.8 | 5° |
|      | min | 0.95 | 0.12 | 2.5 | 1.7  | 0.9 | 0.7 | 3.5 |    |
| mil  | max | 45   | 7.9  | 110 | 78.7 | 47  | 35  | 150 |    |
|      | min | 37   | 4.7  | 98  | 67   | 35  | 28  | 138 |    |

## The recommended mounting pad size

