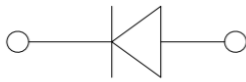
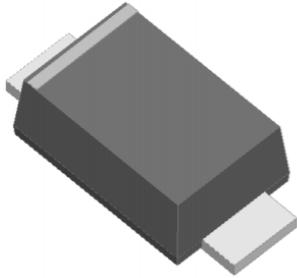


Surface Mount Schottky Barrier Rectifier  
Reverse Voltage - 20 to 200 V  
Forward Current - 3.0A



## 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

## 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            | DS32W      | DS34W    | DS36W | DS38W | DS310W | DS312W | DS315W | DS320W | 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<br>Single Half Sine-wave Superimposed<br>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<br>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 ~ +150 |          |       |       |        |        |        |        | °C    |
| Storage Temperature Range                                                                                 | T <sub>stg</sub>   | -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

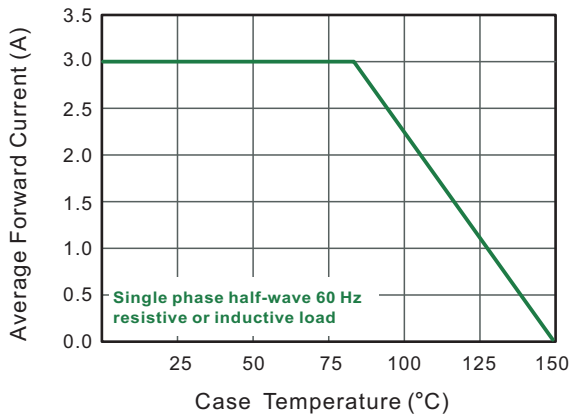


Fig.2 Typical Reverse Characteristics

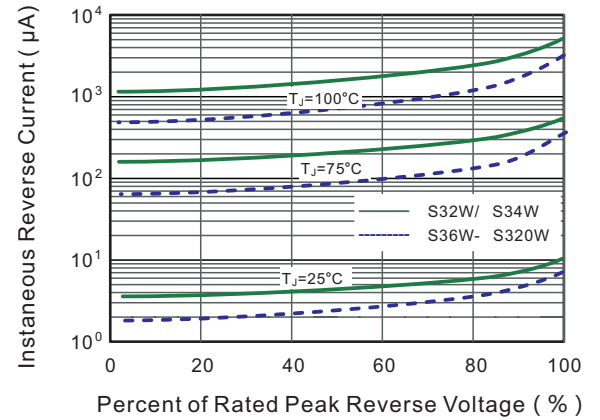


Fig.3 Typical Forward Characteristic

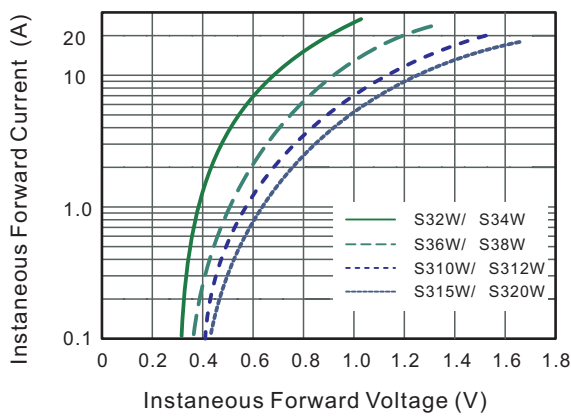


Fig.4 Typical Junction Capacitance

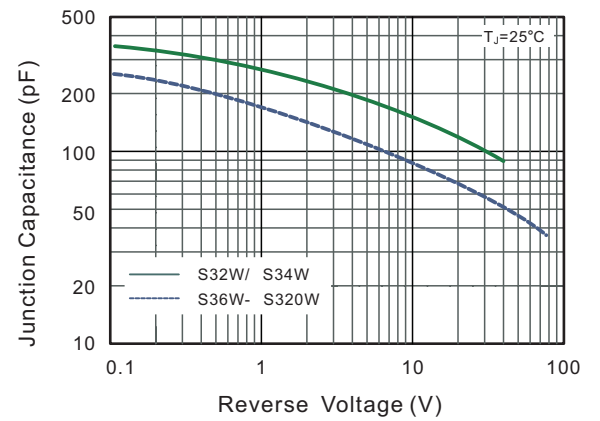


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

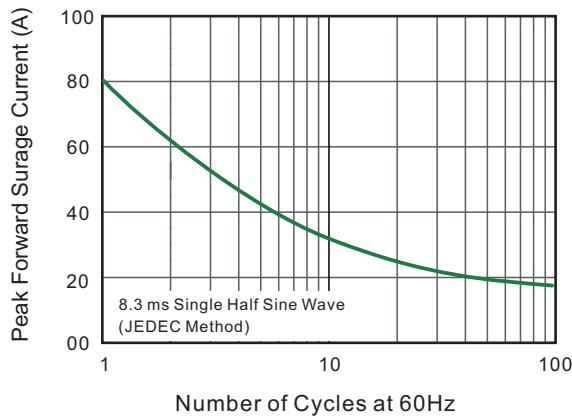
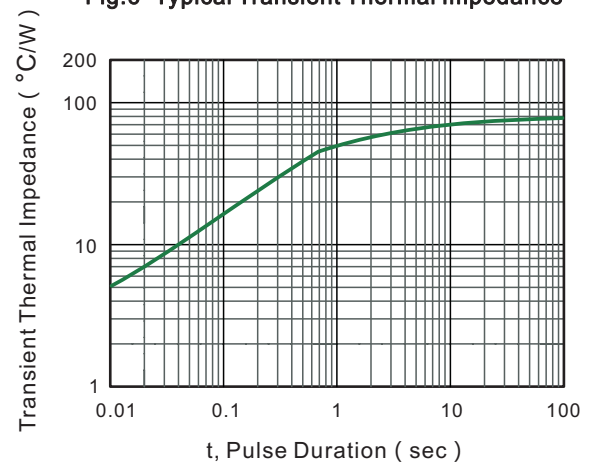
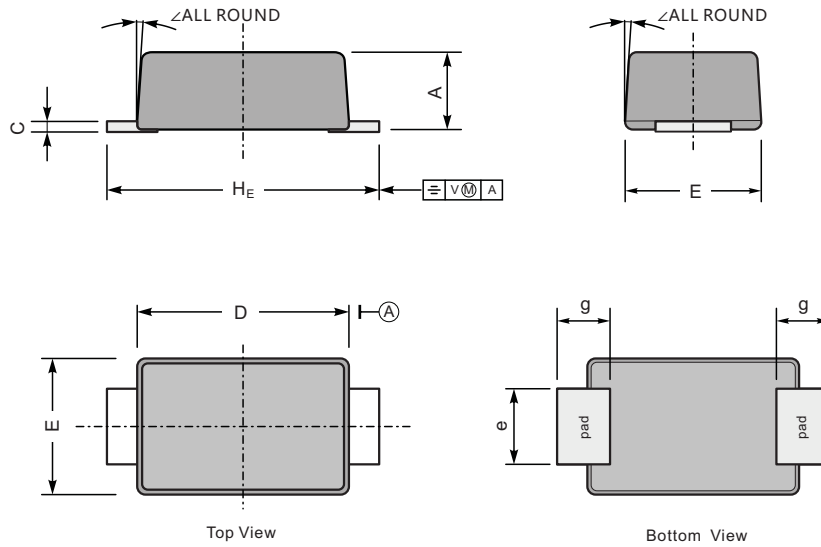


Fig.6- Typical Transient Thermal Impedance



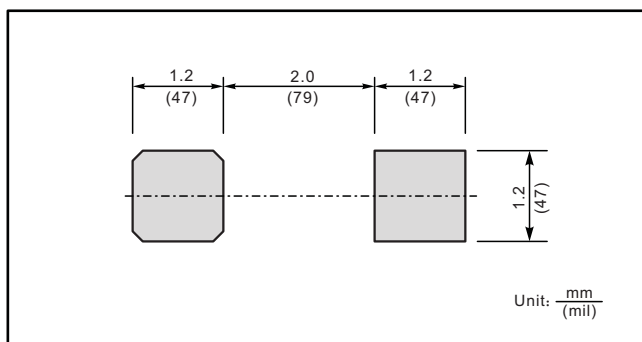
## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



| UNIT |     | A   | C    | D   | E   | e   | g   | H <sub>E</sub> | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm   | max | 1.1 | 0.20 | 2.9 | 1.9 | 1.1 | 0.9 | 3.8            | 7° |
|      | min | 0.9 | 0.12 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5            |    |
| mil  | max | 43  | 7.9  | 114 | 75  | 43  | 35  | 150            |    |
|      | min | 35  | 4.7  | 102 | 67  | 31  | 28  | 138            |    |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| DS32W       | S32          |
| DS34W       | S34          |
| DS36W       | S36          |
| DS38W       | S38          |
| DS310W      | S310         |
| DS312W      | S312         |
| DS315W      | S315         |
| DS320W      | S320         |