

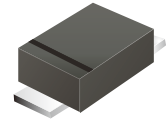
## US1AWF-HF Thru. US1MWF-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 1 Amp

RoHS Device

Halogen Free



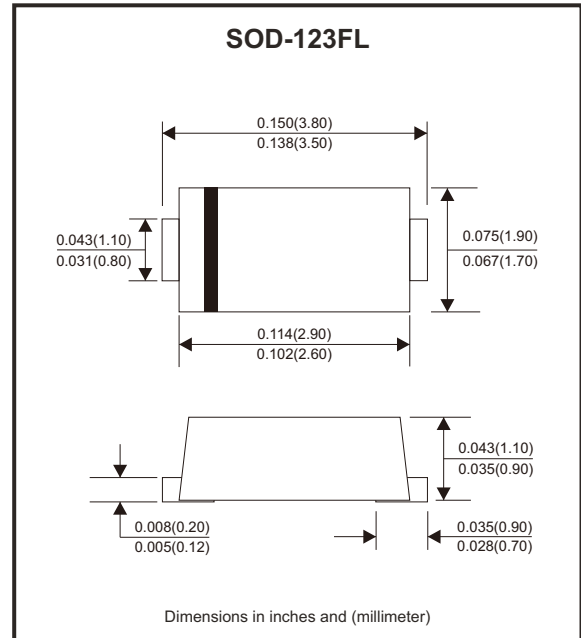
### Features

- For surface mounted applications.
- Low profile package.
- Glass passivated chip junction.
- High efficiency.

### Mechanical data

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, method 2026.

### Circuit Diagram



### 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                           | US1AWF-HF  | US1BWF-HF | US1DWF-HF | US1GWF-HF | US1JWF-HF | US1KWF-HF | US1MWF-HF | Units |
|--|-----------------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub>                  | 50         | 100       | 200       | 400       | 600       | 800       | 1000      | V     |
| Maximum RMS voltage  | V <sub>RMS</sub>                  | 35         | 70        | 140       | 280       | 420       | 560       | 700       | V     |
| Maximum DC blocking voltage  | V <sub>DC</sub>                   | 50         | 100       | 200       | 400       | 600       | 800       | 1000      | V     |
| Maximum average forward rectified current at T <sub>c</sub> = 125°C                | I <sub>F(AV)</sub>                | 1          |           |           |           |           |           |           | A     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                  | 30         |           |           |           |           |           |           | A     |
| Max. instantaneous forward voltage at 1A   | V <sub>F</sub>                    | 1.0        |           | 1.3       |           | 1.65      |           | V         |       |
| Maximum DC reverse current at rated DC blocking voltage                            | I <sub>R</sub>                    | 5<br>100   |           |           |           |           |           |           | μA    |
| Maximum reverse recovery time (Note 1)   | t <sub>rr</sub>                   | 50         |           |           |           | 75        |           |           | ns    |
| Typical junction capacitance (Note 2)  | C <sub>j</sub>                    | 15         |           |           |           |           |           |           | pF    |
| Typical thermal resistance (Note 3)  | R <sub>θJA</sub>                  | 85         |           |           |           |           |           |           | °C/W  |
| Operating and storage temperature range  | T <sub>j</sub> , T <sub>stg</sub> | -55 ~ +150 |           |           |           |           |           |           | °C    |

- Notes: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1A, I<sub>rr</sub> = 0.25A.  
2. Measured at 1 MHz and applied reverse voltage of 4 V D.C  
3. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

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## Rating and Characteristic Curves (US1AWF-HF Thru. US1MWF-HF)

Fig.1 - Forward Current Derating Curve

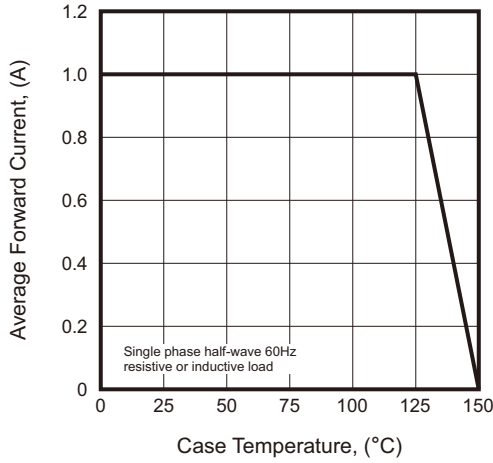


Fig.2 - Typical Reverse Characteristics

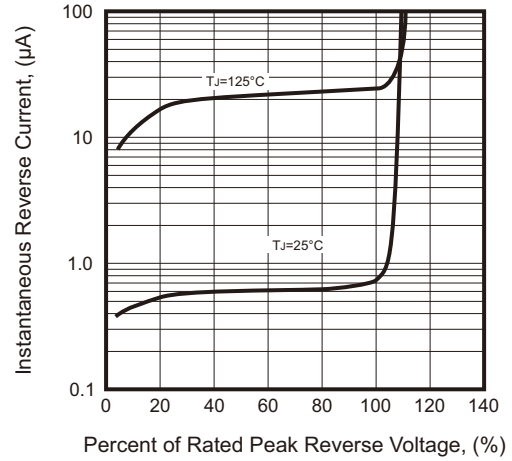


Fig.3 - Typical Forward Characteristic

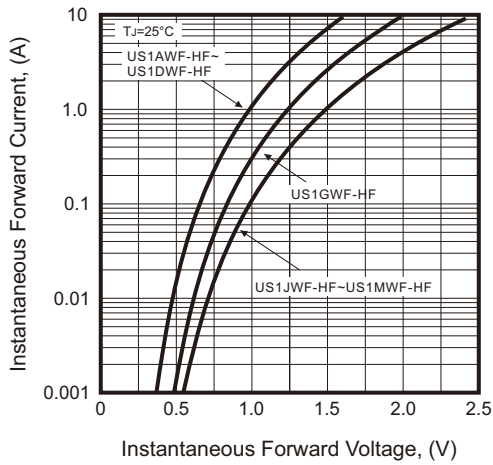


Fig.4 - Maximum Non-Repetitive Peak Forward Surge Current

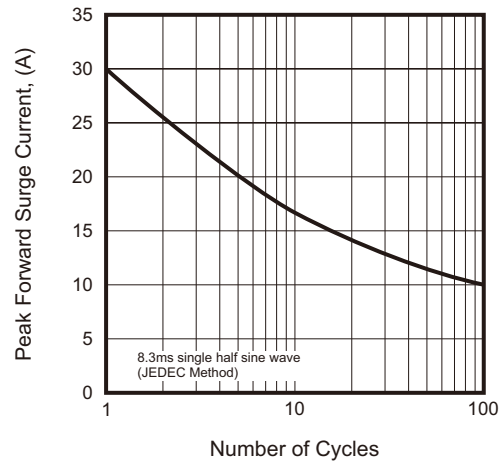


Fig.5 - Typical Transient Thermal Impedance

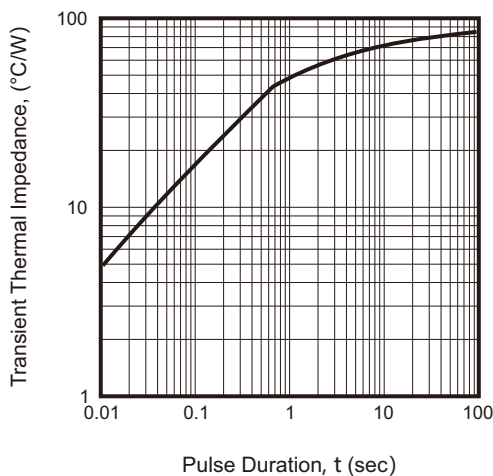
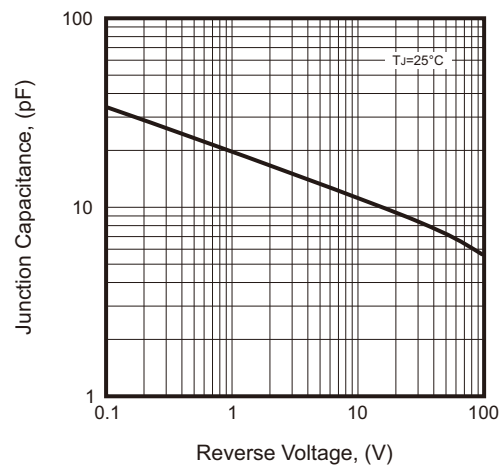
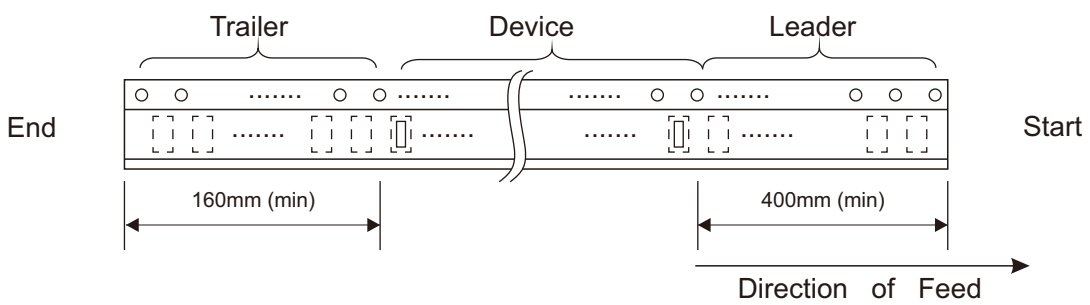
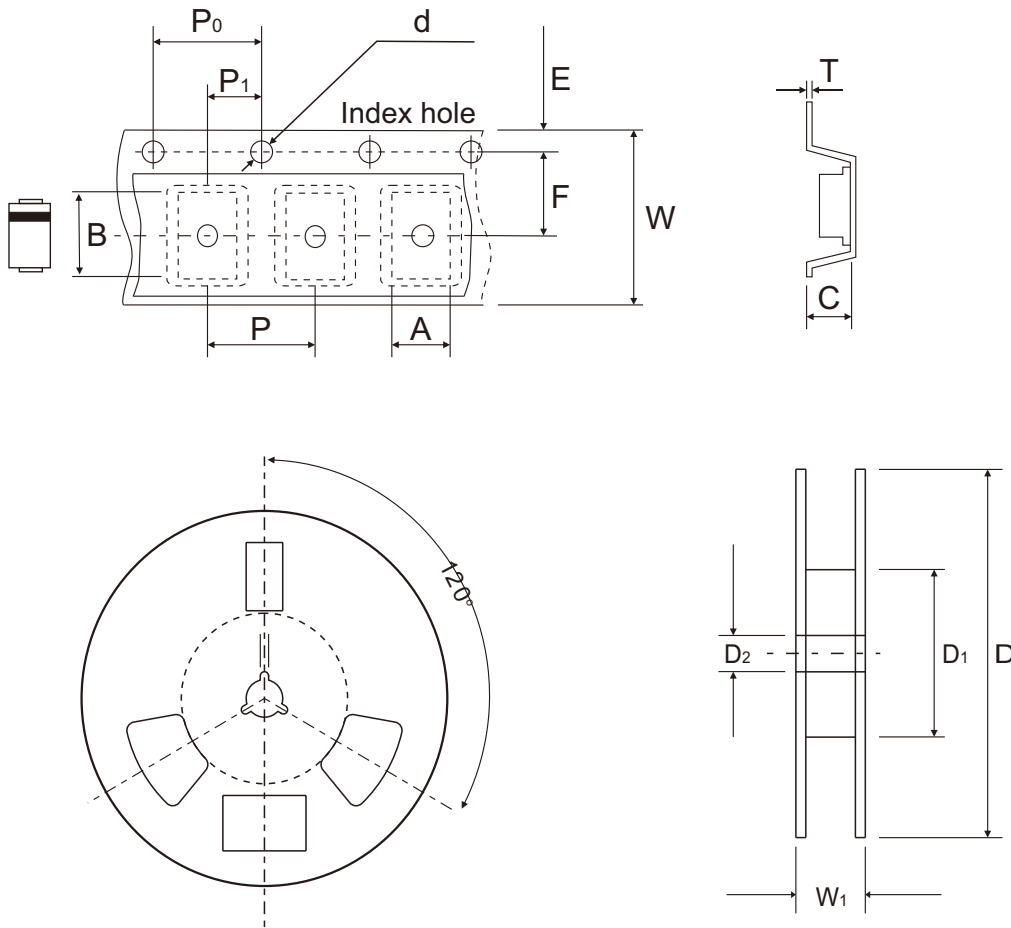


Fig.6 - Typical Junction Capacitance



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## Reel Taping Specification



| SOD-123FL | SYMBOL | A             | B             | C             | d             | D             | D1            | D2            |
|-----------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|           | (mm)   | 2.05 ± 0.10   | 3.90 ± 0.10   | 1.28 ± 0.05   | 1.55 ± 0.05   | 180 ± 1.00    | 60.00 ± 1.50  | 13.00 ± 0.20  |
|           | (inch) | 0.081 ± 0.004 | 0.154 ± 0.004 | 0.050 ± 0.002 | 0.061 ± 0.002 | 7.087 ± 0.039 | 2.362 ± 0.059 | 0.512 ± 0.008 |

| SOD-123FL | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1                       |
|-----------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------------|
|           | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.10   | 4.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.05   | 0.25 ± 0.02   | 8.00 ± 0.30   | 10.70 + 2.00<br>- 1.00   |
|           | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.002 | 0.010 ± 0.001 | 0.315 ± 0.012 | 0.421 + 0.079<br>- 0.039 |

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