

**Surface Mount Ultrafast Recovery Rectifier**

**Reverse Voltage - 50 to 1000 V**

**Forward Current - 1 A**

**FEATURES**

- ◆For surface mounted applications
- ◆Low profile package
- ◆Glass Passivated Chip Junction
- ◆High efficiency
- ◆Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- ◆Case: SOD-123FL
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 15mg /0.00053oz

**Maximum Ratings and characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

**Pinning**

| 1.Cathode                                                                           | 2.Anode |
|-------------------------------------------------------------------------------------|---------|
|  |         |
| <b>SOD-123FL</b>                                                                    |         |

**Marking Code**

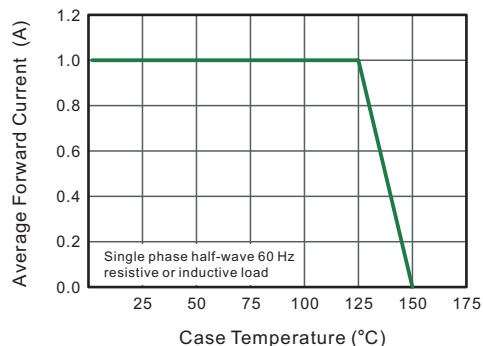
|            |                |
|------------|----------------|
| <b>U1A</b> | <b>YFW U1A</b> |
| <b>U1B</b> | <b>YFW U1B</b> |
| <b>U1D</b> | <b>YFW U1D</b> |
| <b>U1G</b> | <b>YFW U1G</b> |
| <b>U1J</b> | <b>YFW U1J</b> |
| <b>U1K</b> | <b>YFW U1K</b> |
| <b>U1M</b> | <b>YFW U1M</b> |

| Parameter                                                                                             | Symbols                               | U1A        | U1B | U1D | U1G  | U1J  | U1K | U1M  | Units       |
|-------------------------------------------------------------------------------------------------------|---------------------------------------|------------|-----|-----|------|------|-----|------|-------------|
| Maximum Repetitive Peak Reverse Voltage                                                               | <b>V<sub>RRM</sub></b>                | 50         | 100 | 200 | 400  | 600  | 800 | 1000 | <b>V</b>    |
| Maximum RMS voltage                                                                                   | <b>V<sub>RMS</sub></b>                | 35         | 70  | 140 | 280  | 420  | 560 | 700  | <b>V</b>    |
| Maximum DC Blocking Voltage                                                                           | <b>V<sub>DC</sub></b>                 | 50         | 100 | 200 | 400  | 600  | 800 | 1000 | <b>V</b>    |
| Maximum Average Forward Rectified Current at T <sub>c</sub> = 125 °C                                  | <b>I<sub>F(AV)</sub></b>              | 1          |     |     |      |      |     |      | <b>A</b>    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                    | <b>I<sub>FSM</sub></b>                | 30         |     |     |      |      |     |      | <b>A</b>    |
| Maximum Instantaneous Forward Voltage at 1 A                                                          | <b>V<sub>F</sub></b>                  | 0.95       |     |     | 1.25 | 1.65 |     |      | <b>V</b>    |
| Maximum DC Reverse Current T <sub>a</sub> = 25 °C at Rated DC Blocking Voltage T <sub>a</sub> =125 °C | <b>I<sub>R</sub></b>                  | 5<br>100   |     |     |      |      |     |      | <b>μA</b>   |
| Maximum Reverse Recovery Time <sup>(1)</sup>                                                          | <b>T<sub>rr</sub></b>                 | 50         |     |     |      | 75   |     |      | <b>nS</b>   |
| Typical Thermal Resistance <sup>(2)</sup>                                                             | <b>R<sub>θJA</sub></b>                | 85         |     |     |      |      |     |      | <b>°C/W</b> |
| Operating and Storage Temperature Range                                                               | <b>T<sub>j</sub>, T<sub>stg</sub></b> | -55 ~ +150 |     |     |      |      |     |      | <b>°C</b>   |

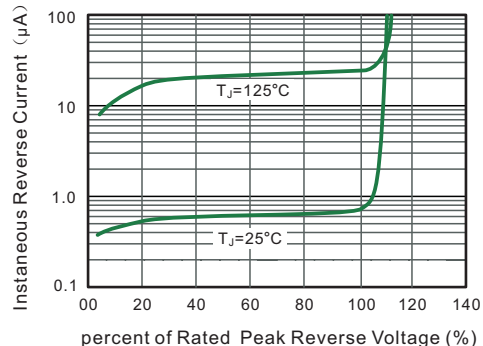
(1) Measured with  $I_F=0.5\text{A}, I_R=1\text{A}, I_n=0.25\text{A}$

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

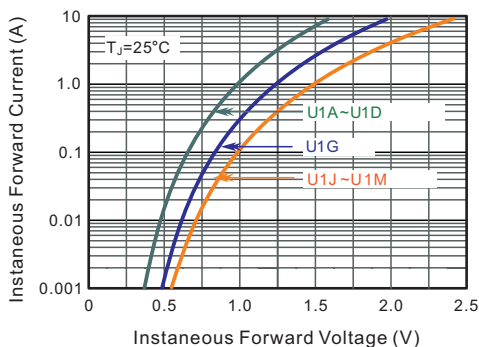
**Fig.1 Forward Current Derating Curve**



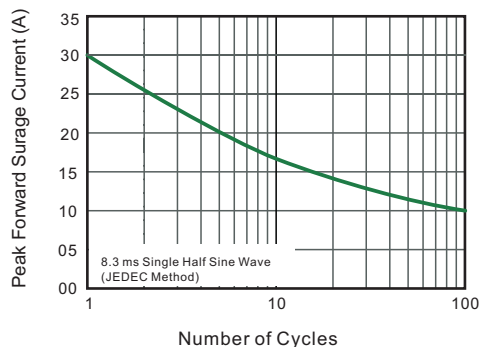
**Fig.2 Typical Reverse Characteristics**



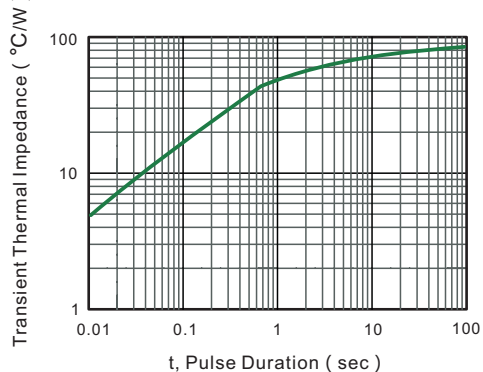
**Fig.3 Typical Forward Characteristics**



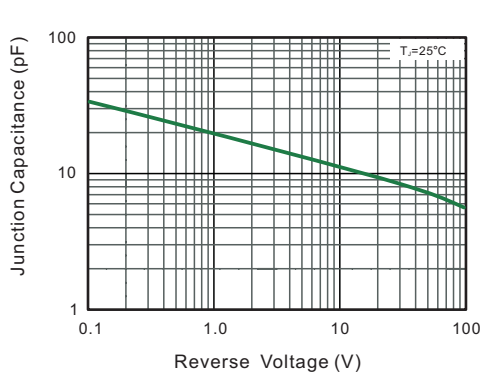
**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



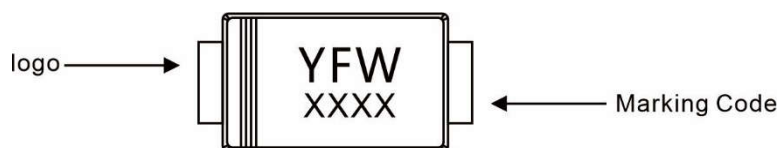
**Fig.5- Typical Transient Thermal Impedance**



**Fig.6 Typical Junction Capacitance**



## Marking Diagram



## Ordering information

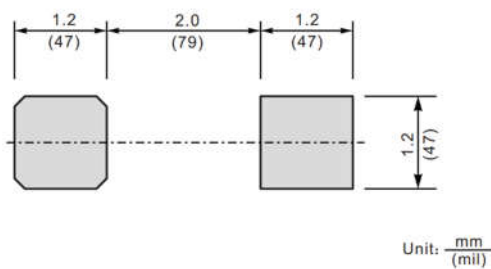
| Package   | Packing Description | Packing Quantity              |
|-----------|---------------------|-------------------------------|
| SOD-123FL | Tape/Reel, 7" reel  | 3000PCS/Reel 120000PCS/Carton |

## Package Dimensions

### SOD-123FL

| Dim. | Millimeter(mm) |      | mil  |      |
|------|----------------|------|------|------|
|      | Min.           | Max. | Min. | Max. |
| A    | 0.9            | 1.3  | 35   | 43   |
| C    | 0.12           | 0.20 | 4.7  | 7.9  |
| D    | 2.6            | 2.9  | 102  | 114  |
| E    | 1.7            | 1.9  | 67   | 75   |
| e    | 0.8            | 1.1  | 31   | 43   |
| g    | 0.7            | 0.9  | 28   | 35   |
| HE   | 3.5            | 3.8  | 138  | 150  |
| ∠    | 7°             |      |      |      |

## The recommended mounting pad size



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