

## SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 V Forward Current - 2 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

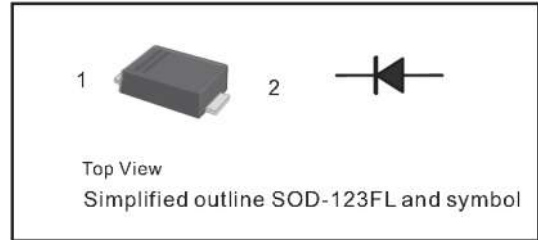
### MECHANICAL DATA

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

### Maximum Ratings and Electrical 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 %.

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

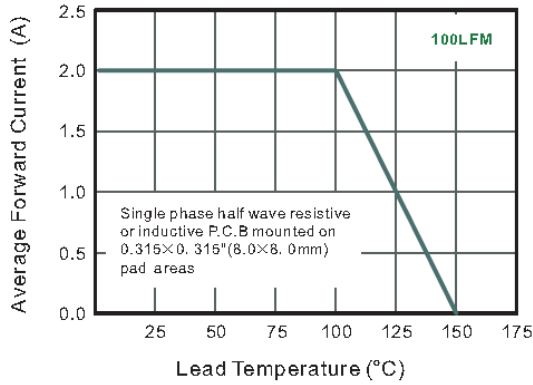


| Parameter  | Symbols         | US2AW      | US2BW | US2DW | US2GW | US2JW | US2KW | US2MW | Units                     |
|--|-----------------|------------|-------|-------|-------|-------|-------|-------|---------------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V                         |
| Maximum RMS voltage  | $V_{RMS}$       | 35         | 70    | 140   | 280   | 420   | 560   | 700   | V                         |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V                         |
| Maximum Average Forward Rectified Current at $T_a = 65^\circ\text{C}$  | $I_{F(AV)}$     | 2          |       |       |       |       |       |       | A                         |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)                | $I_{FSM}$       | 50         |       |       |       |       |       |       | A                         |
| Maximum Instantaneous Forward Voltage at 2 A   | $V_F$           | 1.0        |       | 1.4   |       | 1.68  |       |       | V                         |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>$T_a = 25^\circ\text{C}$<br>$T_a = 125^\circ\text{C}$ | $I_R$           | 5<br>100   |       |       |       |       |       |       | $\mu\text{A}$             |
| Maximum Reverse Recovery Time <sup>1)</sup>  | $t_{rr}$        | 50         |       |       |       | 75    |       |       | ns                        |
| Typical Junction Capacitance <sup>2)</sup>   | $C_j$           | 25         |       |       |       |       |       |       | pF                        |
| Typical Thermal Resistance <sup>3)</sup>   | $R_{\theta JA}$ | 90         |       |       |       |       |       |       | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range  | $T_j, T_{sig}$  | -55 ~ +150 |       |       |       |       |       |       | $^\circ\text{C}$          |

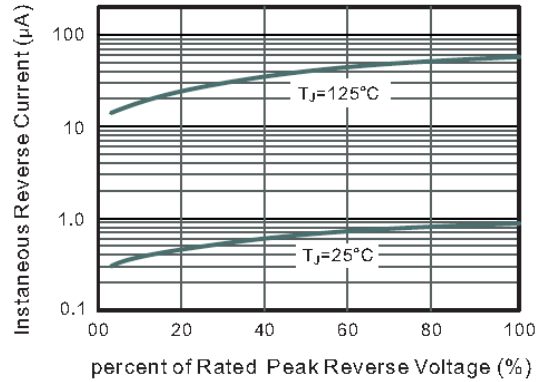
1) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$       2) Measured at 1 MHz and applied reverse voltage of 4 V D.C

3) P.C.B. mounted with 0.2x0.2" ( 5.0x5.0mm ) copper pad areas.

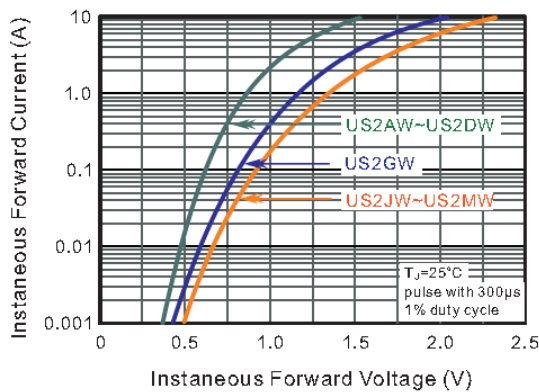
**Fig.1 Maximum Average Forward Current Rating**



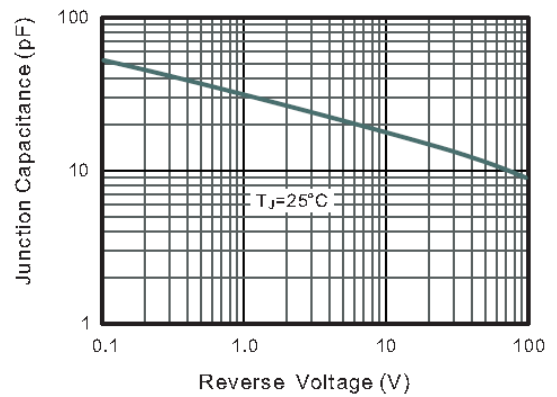
**Fig.2 Typical Reverse Characteristics**



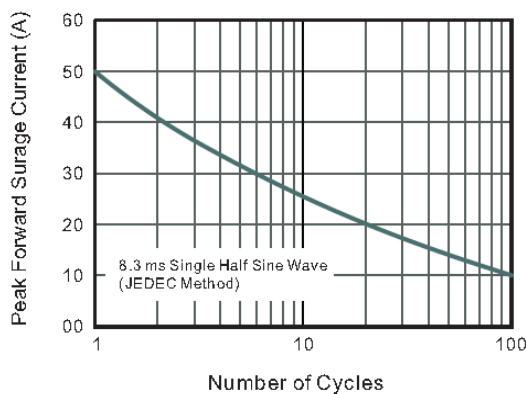
**Fig.3 Typical Forward Characteristics**



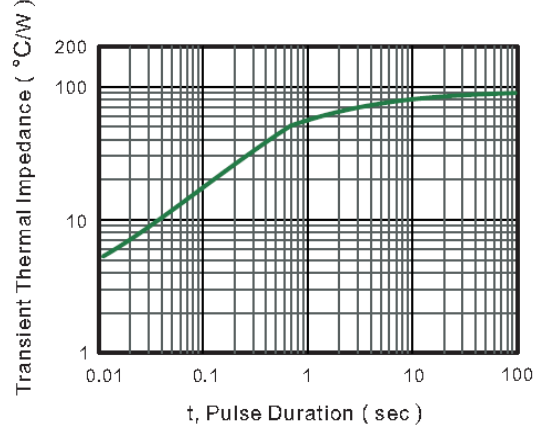
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



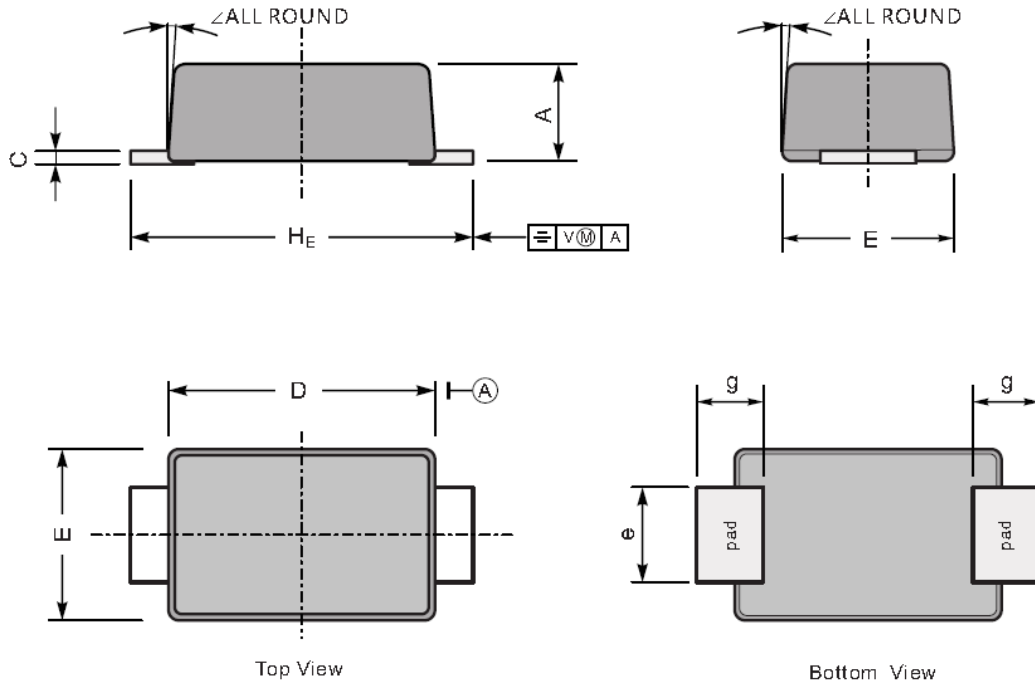
**Fig.6- Typical Transient Thermal Impedance**



## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



| UNIT |     | A   | C    | D   | E   | e   | g   | $H_E$ | $\angle$ |
|------|-----|-----|------|-----|-----|-----|-----|-------|----------|
| 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

