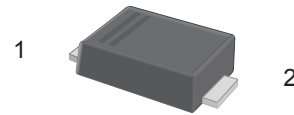
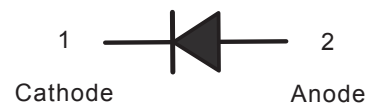


**Surface Mount General Purpose Silicon Rectifiers****FEATURES**

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Ideal for automated placement
- Lead free in comply with EU RoHS 2011/65/EU directives

**SOD-123FL****CIRCUIT DIAGRAM****MECHANICAL DATA**

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

**MARKING**

| Type number | Marking code |
|-------------|--------------|
| 1N4001W     | A1           |
| 1N4002W     | A2           |
| 1N4003W     | A3           |
| 1N4004W     | A4           |
| 1N4005W     | A5           |
| 1N4006W     | A6           |
| 1N4007W     | A7           |

## 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 %.

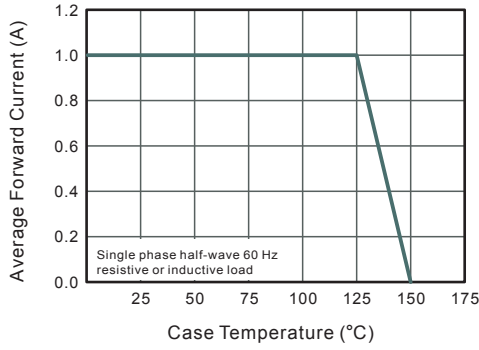
| Parameter  | Symbols         | 1N<br>4001W | 1N<br>4002W | 1N<br>4003W | 1N<br>4004W | 1N<br>4005W | 1N<br>4006W | 1N<br>4007W | Units         |
|--|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| Maximum Repetitive 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 $T_c = 125\text{ °C}$                                       | $I_{F(AV)}$     | 1           |             |             |             |             |             |             | A             |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                       | $I_{FSM}$       | 30          |             |             |             |             |             |             | A             |
| Maximum Instantaneous Forward Voltage at 1 A   | $V_F$           | 1.1         |             |             |             |             |             |             | V             |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>$T_a = 25\text{ °C}$<br>$T_a = 125\text{ °C}$ | $I_R$           | 5<br>50     |             |             |             |             |             |             | $\mu\text{A}$ |
| Typical Junction Capacitance <sup>(1)</sup>  | $C_j$           | 8(TYP.)     |             |             |             |             |             |             | pF            |
| Typical Thermal Resistance <sup>(2)</sup>  | $R_{\theta JA}$ | 90          |             |             |             |             |             |             | °C/W          |
| Operating and Storage Temperature Range  | $T_j, T_{stg}$  | -55 ~ +150  |             |             |             |             |             |             | °C            |

( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

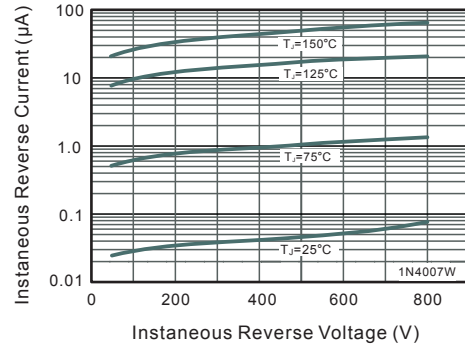
( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

## TYPICAL CHARACTERISTICS

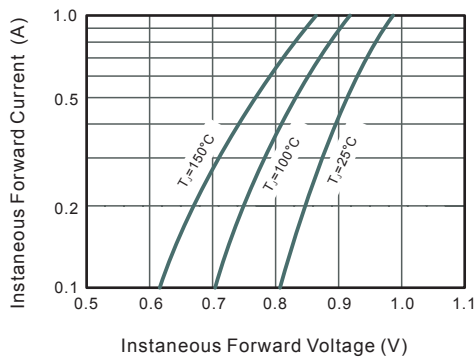
**Fig.1 Forward Current Derating Curve**



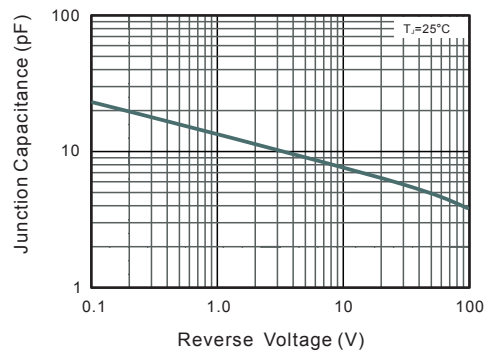
**Fig.2 Typical Instantaneous Reverse Characteristics**



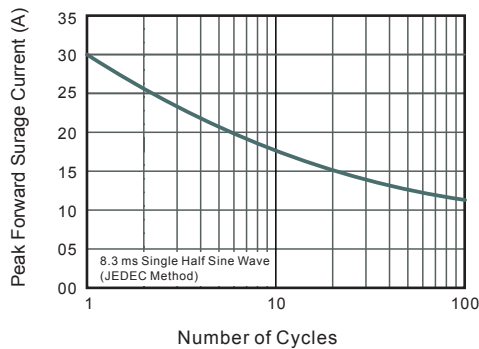
**Fig.3 Typical Forward Characteristic**



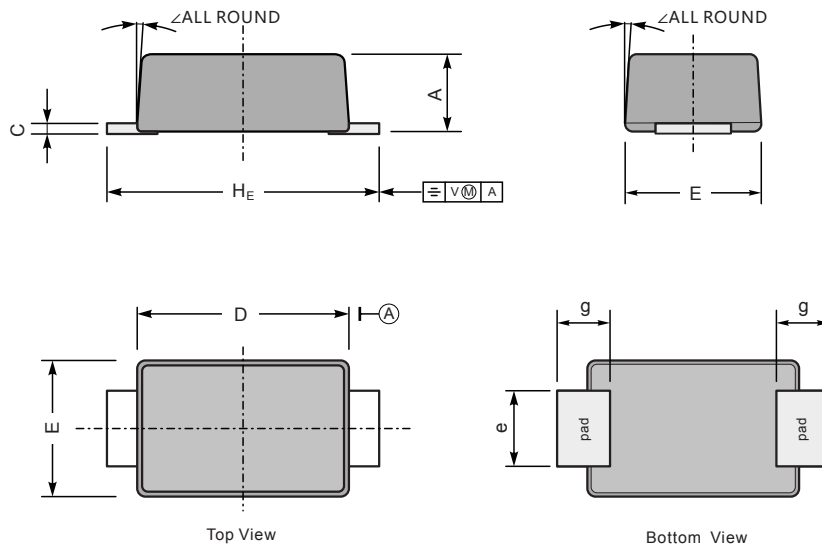
**Fig.4 Typical Junction Capacitance**



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



## SOD-123FL PACKAGE OUTLINE DRAWING



| SYM      | MILLIMETERS |      | INCHES |        |
|----------|-------------|------|--------|--------|
|          | MIN         | MAX  | MIN    | MAX    |
| A        | 0.9         | 1.1  | 0.035  | 0.043  |
| C        | 0.12        | 0.20 | 0.0047 | 0.0079 |
| D        | 2.6         | 2.9  | 0.102  | 0.114  |
| E        | 1.7         | 1.9  | 0.067  | 0.075  |
| e        | 0.8         | 1.1  | 0.031  | 0.043  |
| g        | 0.7         | 0.9  | 0.028  | 0.035  |
| $H_E$    | 3.5         | 3.8  | 0.138  | 0.150  |
| $\angle$ | 7°          |      | 7°     |        |