



## Surface Mount General Purpose Silicon Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

### FEATURES

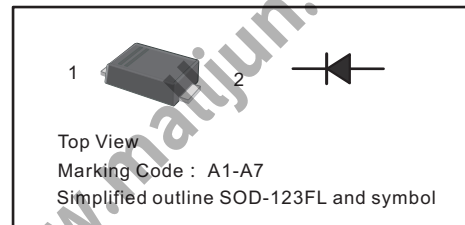
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Ideal for automated placement
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

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

### PINNING

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



### 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         | 1N4001W    | 1N4002W | 1N4003W | 1N4004W | 1N4005W | 1N4006W | 1N4007W | 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 $T_c = 125^\circ\text{C}$                                        | $I_{F(AV)}$     | 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 $T_a = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage $T_a = 125^\circ\text{C}$ | $I_R$           | 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         |         |         |         |         |         |         | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                                       | $T_j, T_{stg}$  | -55 ~ +150 |         |         |         |         |         |         | $^\circ\text{C}$   |

(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

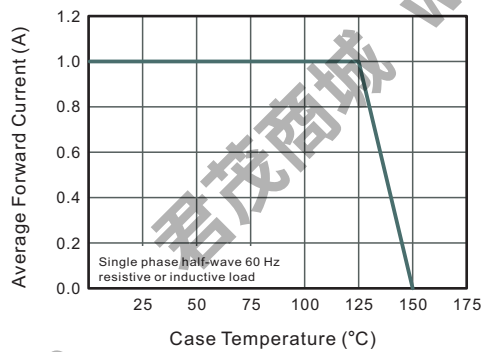


Fig.2 Typical Instantaneous Reverse Characteristics

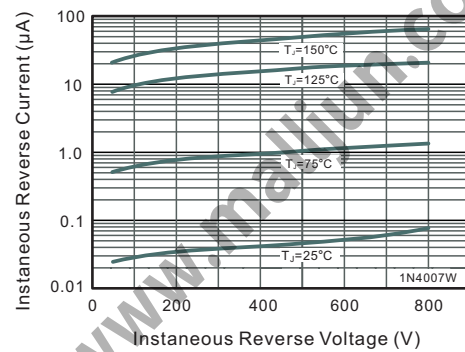


Fig.3 Typical Forward Characteristic

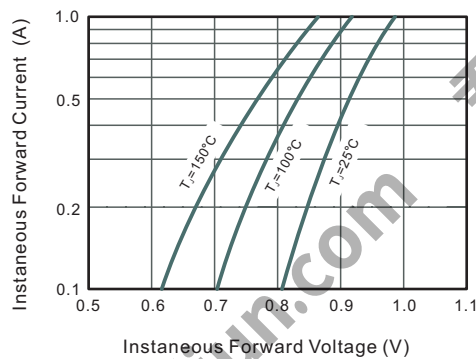


Fig.4 Typical Junction Capacitance

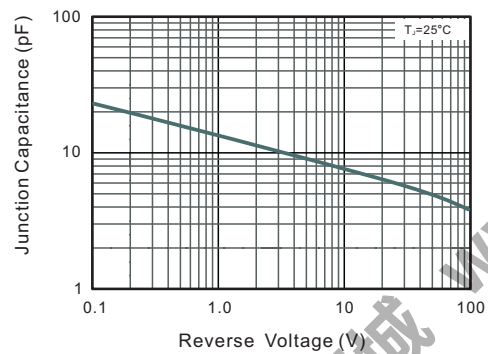
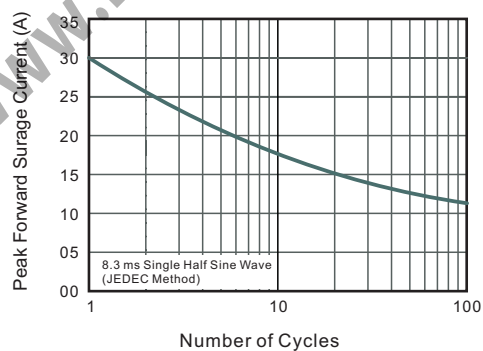


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

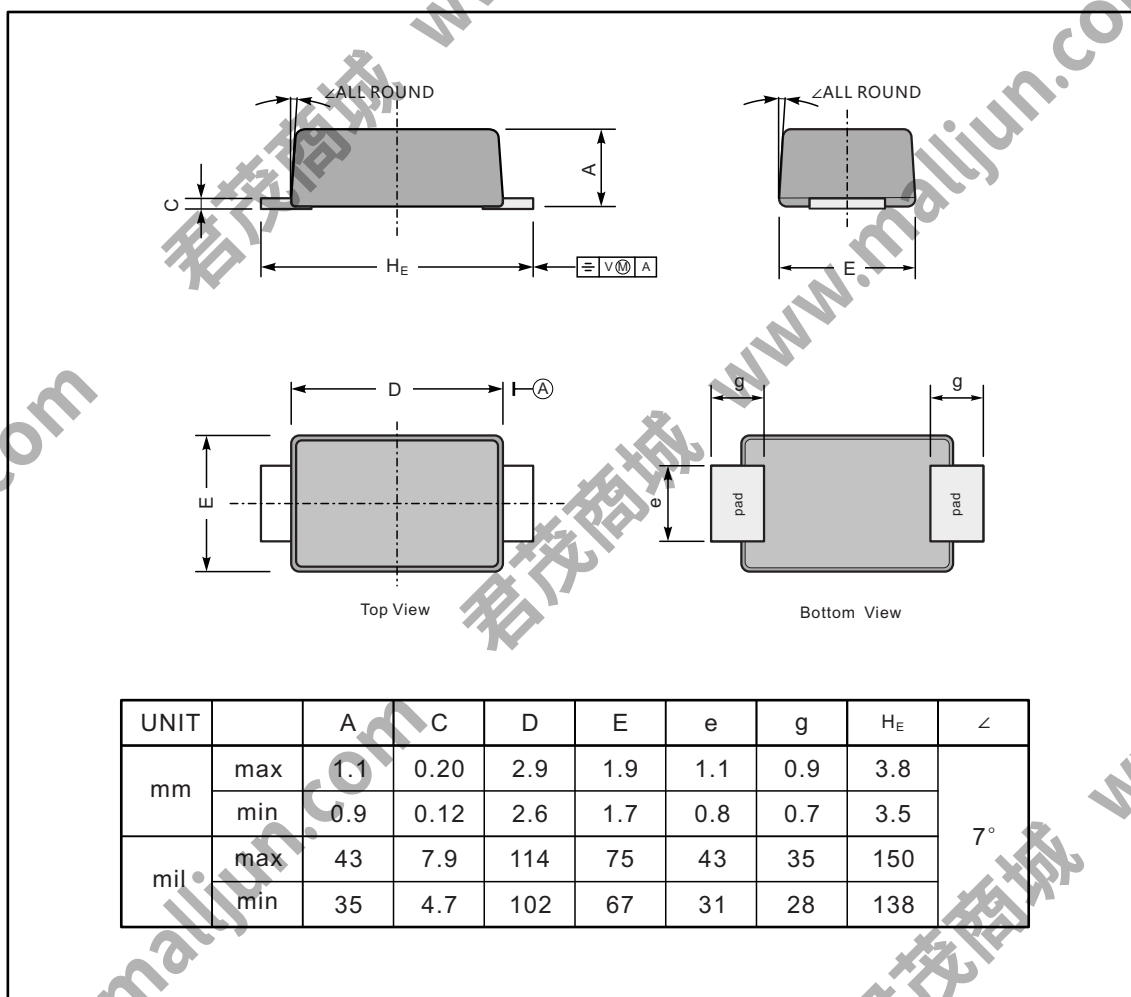




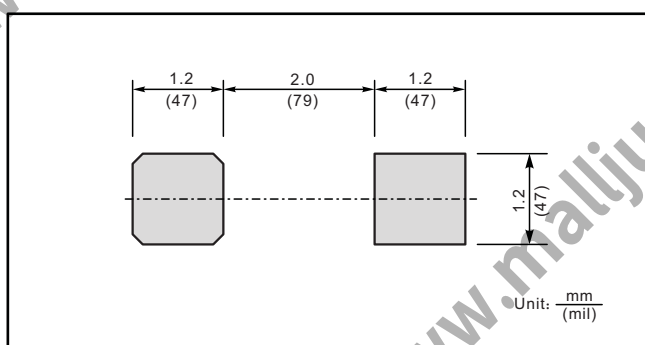
## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size



Marking

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