



# 1N4001W THRU 1N4007W

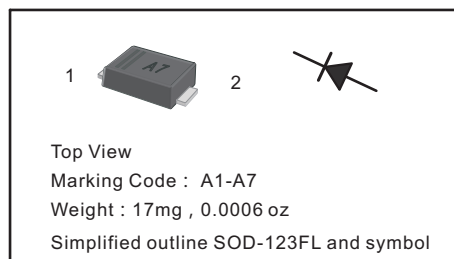
## Surface Mount General Purpose Silicon Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

### PINNING

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



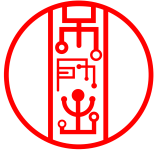
### Maximum Ratings and Electrical characteristics

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 $T_a = 65^\circ\text{C}$                                         | $I_{F(AV)}$     | 1          |         |         |         |         |         |         | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)             | $I_{FSM}$       | 25         |         |         |         |         |         |         | 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>                                                                    | $C_j$           | 4          |         |         |         |         |         |         | pF                 |
| Typical Thermal Resistance <sup>2)</sup>                                                                      | $R_{\theta JA}$ | 180        |         |         |         |         |         |         | $^\circ\text{C/W}$ |
| 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) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted



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Fig.1 Forward Current Derating Curve

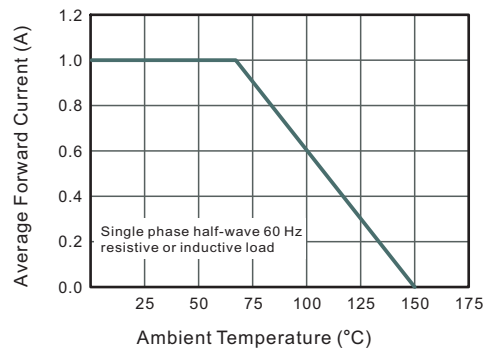


Fig.2 Typical Instantaneous Reverse Characteristics

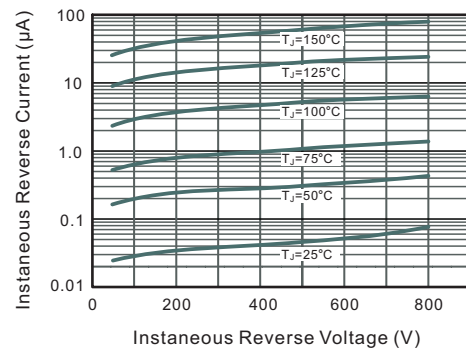


Fig.3 Typical Forward Characteristic

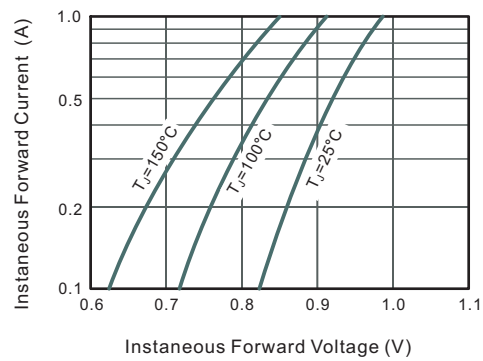
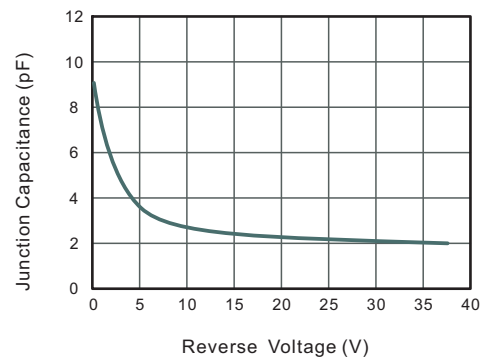
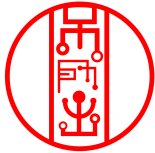


Fig.4 Typical Junction Capacitance



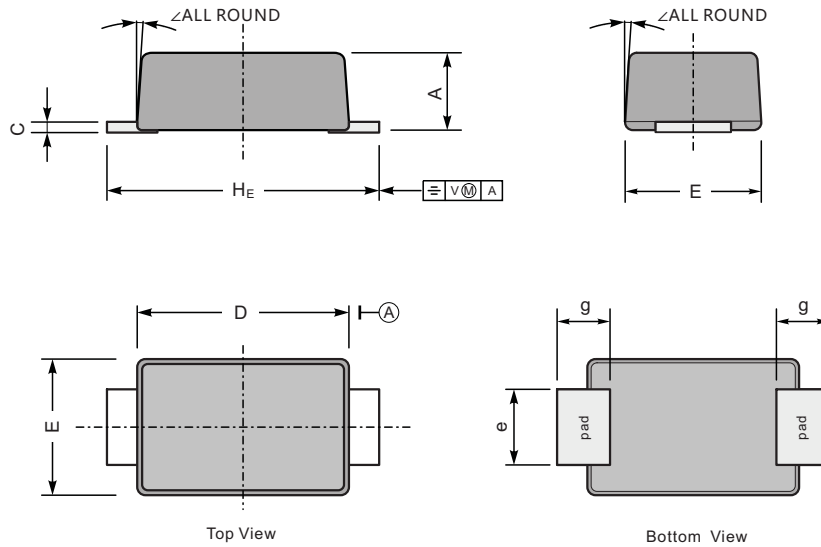


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## PACKAGE OUTLINE

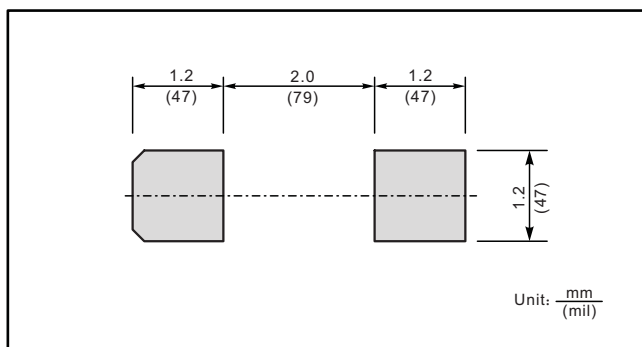
Plastic surface mounted package; 2 leads

SOD123FL



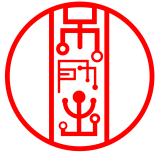
| UNIT |     | A   | C    | D   | E   | e   | g   | H <sub>E</sub> | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm   | max | 1.1 | 0.20 | 2.9 | 1.9 | 1.1 | 0.9 | 3.8            | 7° |
|      | min | 0.9 | 0.12 | 2.6 | 1.7 | 0.8 | 0.7 | 3.5            |    |
| mil  | max | 43  | 7.9  | 114 | 75  | 43  | 35  | 150            |    |
|      | min | 35  | 4.7  | 102 | 67  | 31  | 28  | 138            |    |

### The recommended mounting pad size



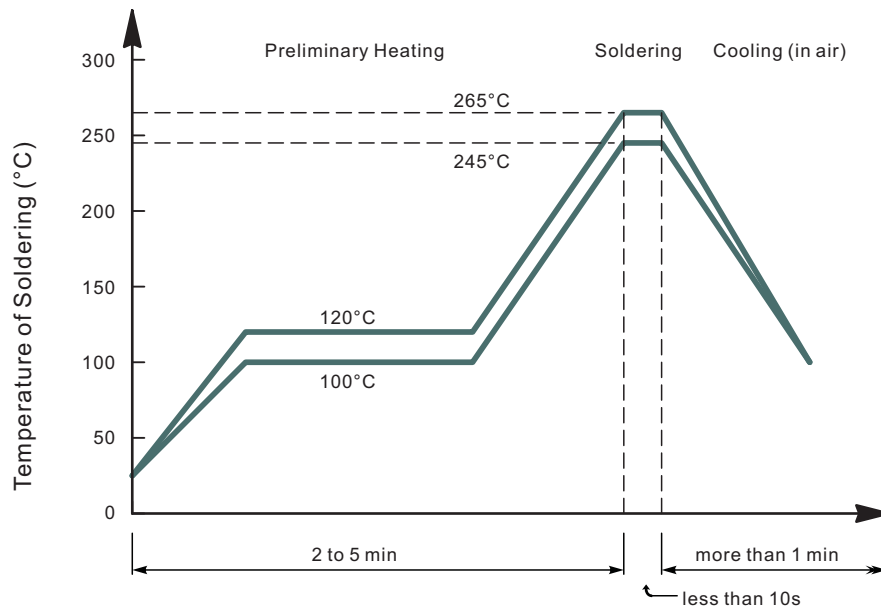
### Marking

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

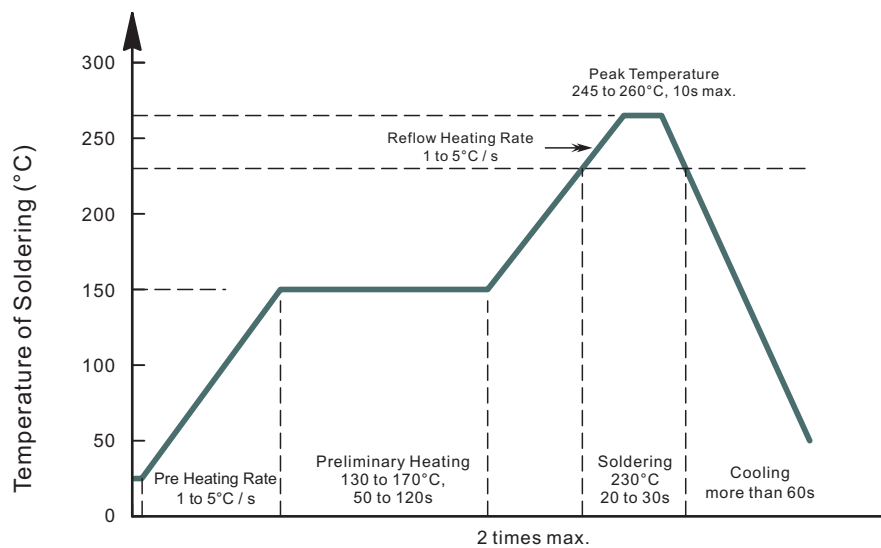


# 1N4001W THRU 1N4007W

## • Recommended condition of flow soldering



## • Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

## • Condition of hand soldering

Temperature: 370°C

Time: 3s max.

Times: one time

## • Remark:

Lead free solder paste (96.5Sn/3.0Ag/0.5Cu)