

**SURFACE MOUNT**  
**GENERAL PURPOSE SILICON RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* P/N suffix V means AEC-Q101 qualified, e.g:1N4001WV
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0
- \* Terminals: Solderable per MIL-STD-750, Method 2026

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
resistive or inductive load.

**PINNING**

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



Top View

Marking Code : A1-A7

Simplified outline SOD-123F(L) and symbol

**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

| RATINGS                                                                                           | SYMBOL          | 1N4001W      | 1N4002W | 1N4003W | 1N4004W | 1N4005W | 1N4006W | 1N4007W | UNITS               |
|---------------------------------------------------------------------------------------------------|-----------------|--------------|---------|---------|---------|---------|---------|---------|---------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$       | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts               |
| Maximum RMS Voltage                                                                               | $V_{RMS}$       | 35           | 70      | 140     | 280     | 420     | 560     | 700     | Volts               |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$        | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts               |
| Maximum Average Forward Rectified Current at Ambient Temperature                                  | $I_O$           | 1.0          |         |         |         |         |         |         | Amps                |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$       | 30           |         |         |         |         |         |         | Amps                |
| Current Squared Time                                                                              | $I^2t$          | 3.7          |         |         |         |         |         |         | A <sup>2</sup> /Sec |
| Typical Thermal Resistance (Note 1)                                                               | $R_{\theta JA}$ | 90           |         |         |         |         |         |         | °C/W                |
| Typical Junction Capacitance (Note 2)                                                             | $C_J$           | 8            |         |         |         |         |         |         | pF                  |
| Operating Temperature Range                                                                       | $T_J$           | -55 to + 150 |         |         |         |         |         |         | °C                  |
| Storage Temperature Range                                                                         | $T_{STG}$       | -55 to + 150 |         |         |         |         |         |         | °C                  |

**ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)**

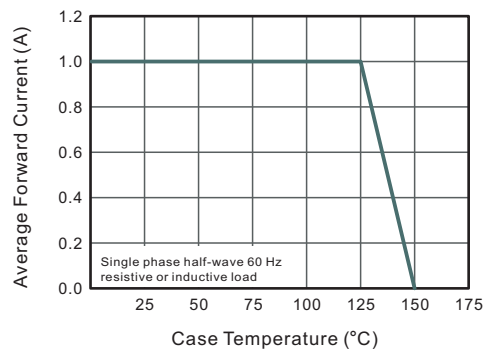
| CHARACTERISTICS                                            | SYMBOL | 1N4001W | 1N4002W | 1N4003W | 1N4004W | 1N4005W | 1N4006W | 1N4007W | UNITS |
|------------------------------------------------------------|--------|---------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC           | $V_F$  | 1.1     |         |         |         |         |         |         | Volts |
| Maximum Average Reverse Current @ $T_A = 25^\circ\text{C}$ | $I_R$  | 5.0     |         |         |         |         |         |         | uA    |
| at Rated DC Blocking Voltage @ $T_A = 150^\circ\text{C}$   |        | 1.0     |         |         |         |         |         |         | mA    |

NOTES : 1. Thermal Resistance :Mounted on PCB.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

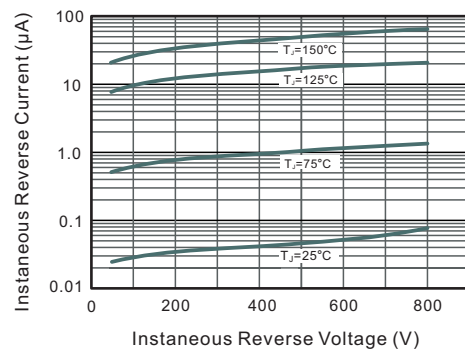
2020-01  
REV:C

# RATING AND CHARACTERISTICS CURVES ( 1N4001W THRU 1N4007W)

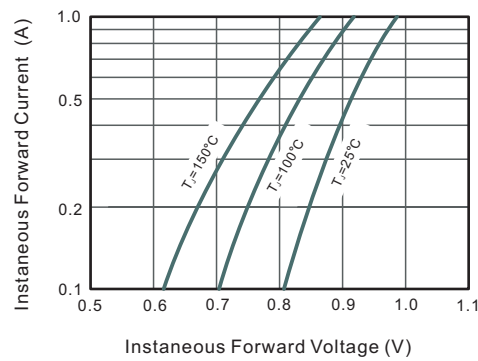
**Fig.1 Forward Current Derating Curve**



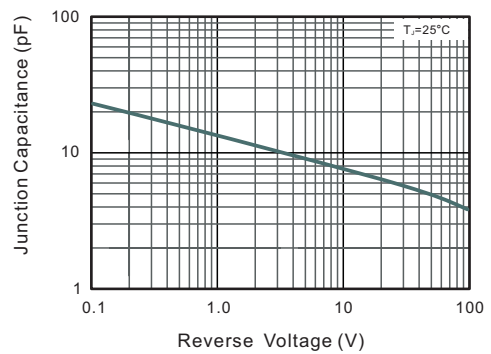
**Fig.2 Typical Instantaneous Reverse Characteristics**



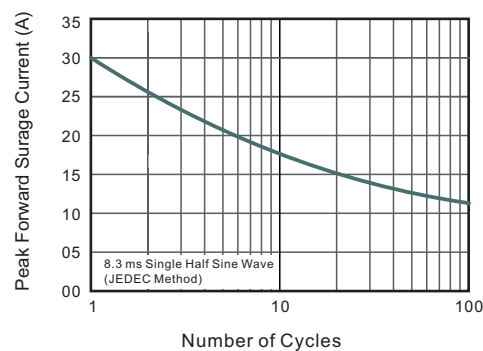
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**

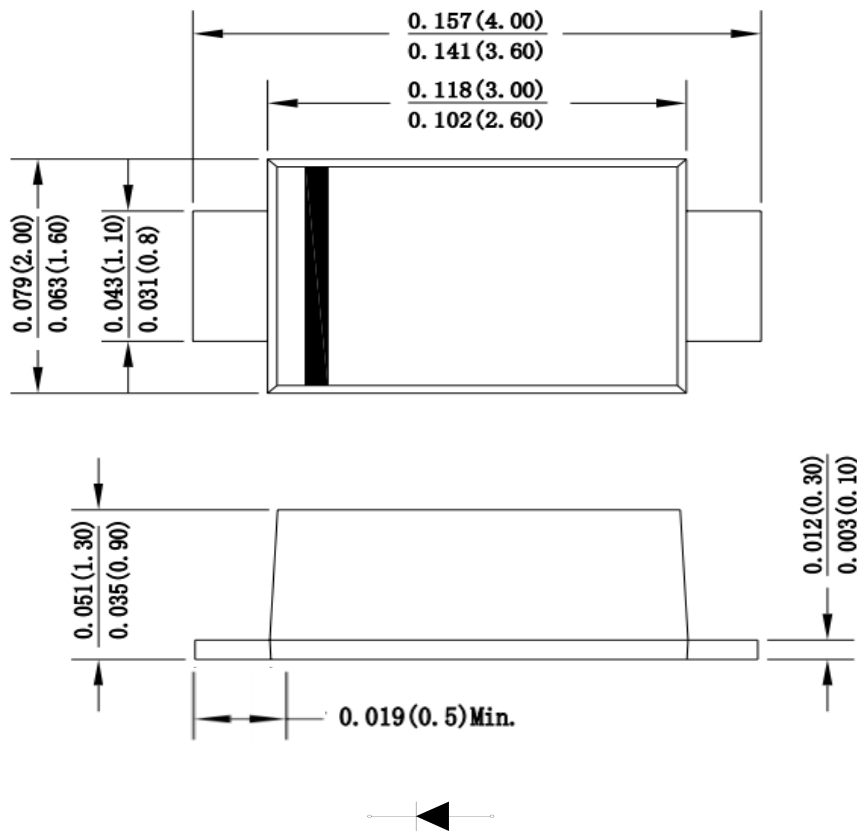


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



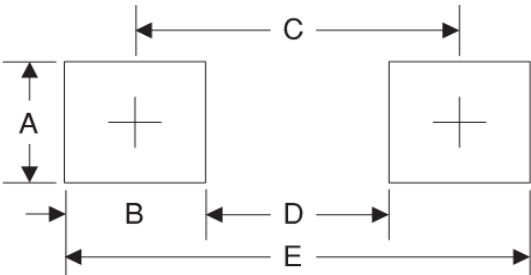
PACKAGE OUTLINE

SOD-123F(L)



Dimensions in inches and (millimeters)

The recommended mounting pad size



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.2       | 0.048       |
| B      | 1.15      | 0.045       |
| C      | 3.10      | 0.122       |
| D      | 1.95      | 0.077       |
| E      | 4.25      | 0.167       |

Marking

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

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

| PACKAGE     | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|-------------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SOD-123F(L) | -W/T         | 3,000       | 15,000           | ---                  | ---             | 178           | 390*205*310      | 120,000       | 6.964            |

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