

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

1N4001-1N4007

Product specification

Surface Mount Glass Passivated Standard Rectifier
Reverse Voltage 50~1000V Forward Current 0.8A



FEATURES

- Glass passivated Standard Rectifiers
- Very low profile - typical height of 1.0 mm
- Low forward voltage drop
- Low leakage current
- Moisture sensitivity: level 1, per J-STD-020
- AEC-Q101 qualified
- High temperature soldering guaranteed: 260°C/10 seconds
- Halogen-free according to IEC 61249-2-21 definition

Typical Applications

For use of general purpose rectification in lighting, cellular phone, portable device, power supplies and other consumer applications.








Reference News

| SOD-123FL | Schematic Diagram |
|--|---|
|  |  |

PINNING

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

Marking

| 1N4001 A1 | 1N4002 A2 | 1N4003 A3 | 1N4004 A4 |
|---|---|--|---|
|  |  |  |  |
| 1N4005 A5 | 1N4006 A6 | 1N4007 A7 | |
|  |  |  | |

Maximum Ratings (TA = 25 °C unless otherwise noted)

| Parameter | Symbol | 1N4001 A1 | 1N4002 A2 | 1N4003 A3 | 1N4004 A4 | 1N4005 A5 | 1N4006 A6 | 1N4007 A7 | Unit |
|--|-------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|------|
| Maximum repetitive peak reverse voltage | VRRM | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | VRMS | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | VDC | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current | IF(AV) | 1.0 | | | | | | | A |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | IFSM | 25 | | | | | | | A |
| Operating junction and storage temperature range | TJ, TSTG | - 55 to + 150 | | | | | | | °C |

Electrical Characteristics (TA = 25 °C unless otherwise noted)

| Parameter | Test Conditions | Symbol | 1N4001 A1 | 1N4002 A2 | 1N4003 A3 | 1N4004 A4 | 1N4005 A5 | 1N4006 A6 | 1N4007 A7 | Unit |
|---|---|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------|
| Maximum instantaneous forward voltage | 1.0A Volts | V _F | 1.0 | | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage | TA=25°C TA=125°C | I _R | 5 50 | | | | | | | µA |
| Typical reverse recovery time | I _F =0.5A, I _R =1.0A, I _{rr} =0.25A | t _{rr} | 1.8 | | | | | | | uS |
| Typical junction capacitance | 4.0 V, 1 MHz | C _J | 6 | | | | | | | pF |
| Typical thermal resistance ¹⁾ | juntion to ambient | R _{θJA} | 70 | | | | | | | °C/W |
| | juntion to case | R _{θJC} | 40 | | | | | | | |
| | juntion to mount | R _{θJM} | 5 | | | | | | | |

Note 1), The thermal resistance from junction to ambient, case or mount, mounted on P.C.B with 5×5mm copper pads, 2 OZ, FR4 PCB

Package Outline Dimensions

(TA = 25°C unless otherwise noted)

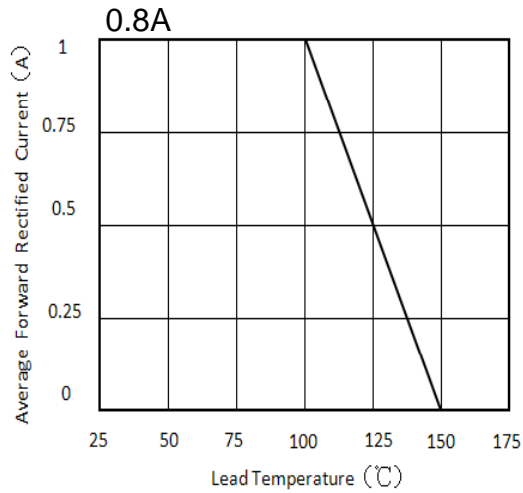


Figure 1. Forward Current Derating Curve

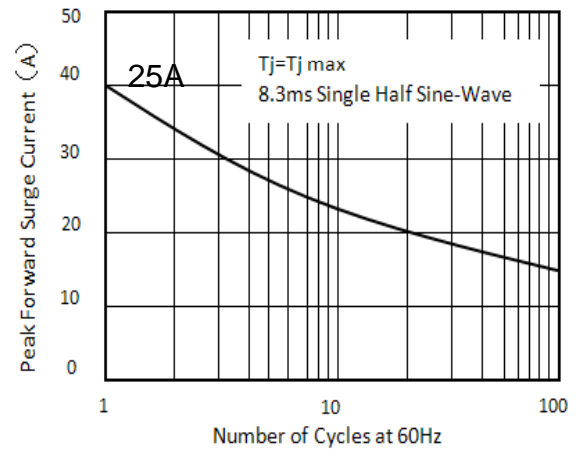


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

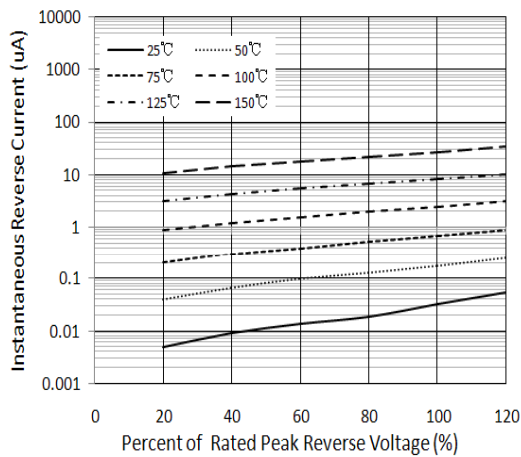


Figure 3. Typical Reverse Characteristics

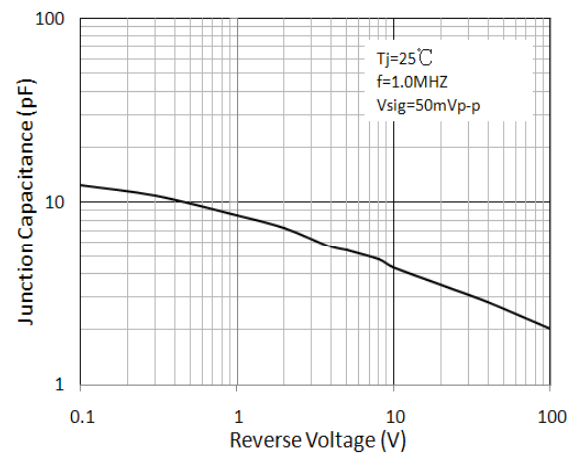


Figure 4. Typical Junction Capacitance

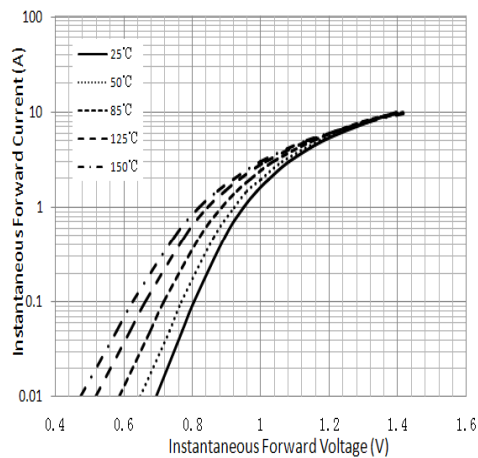
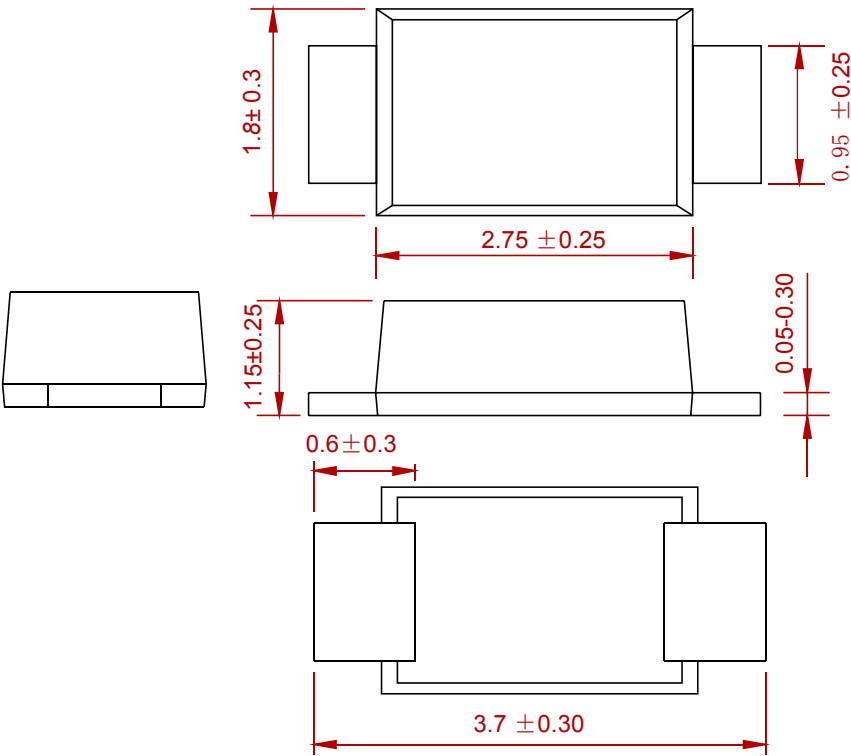


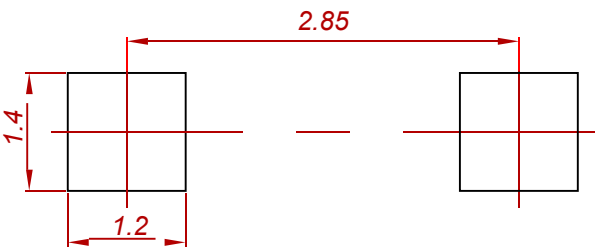
Figure 5. Typical Instantaneous Forward Characteristics

PACKAGE MECHANICAL DATA



Dimensions in millimeters

Suggested Pad Layout



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|---------------|-----------|------|
| 1N4001-1N4007 | SOD-123FL | 3000 |

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