

**SURFACE MOUNT**  
**GLASS PASSIVATED SILICON RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

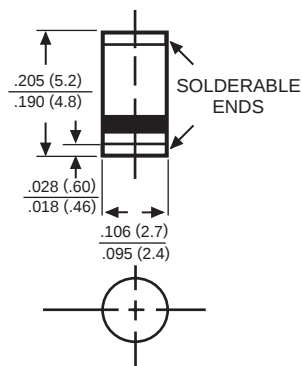
**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.015 gram

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0

**MELF**



Dimensions in inches and (millimeters)

**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, derate current by 20%.

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

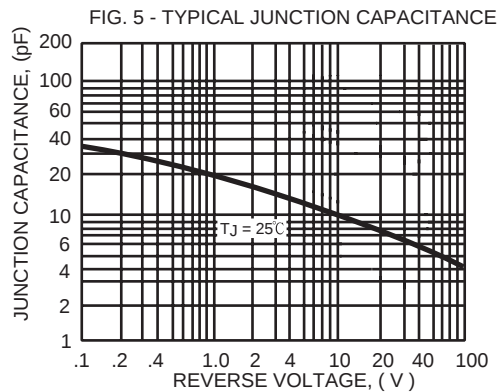
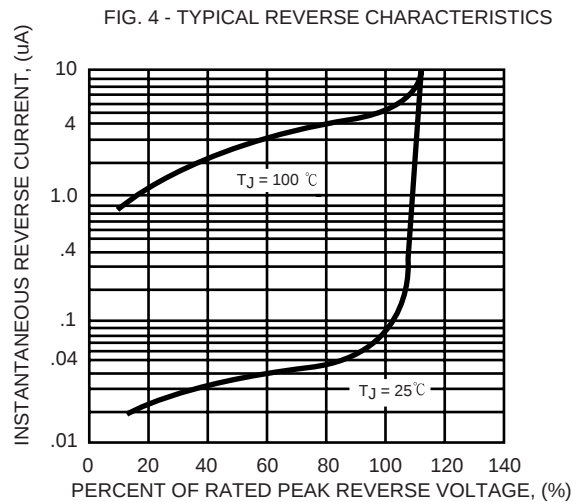
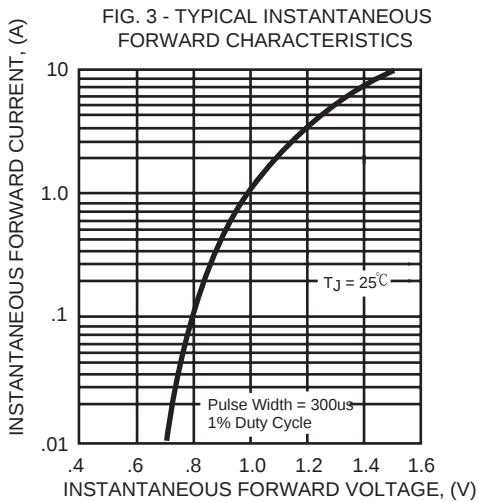
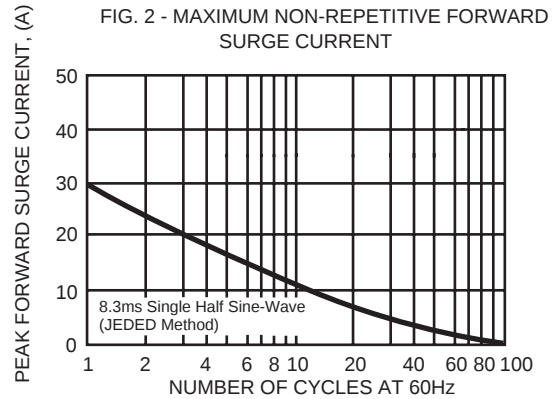
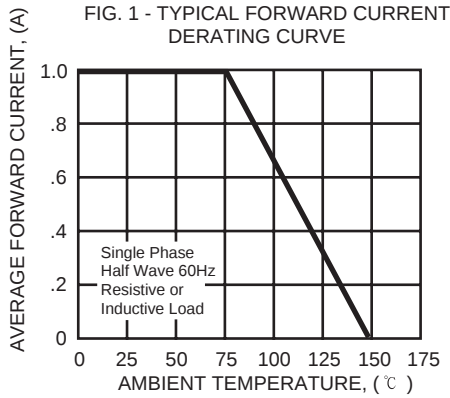
| RATINGS                                                                                                       | SYMBOL        | SM4001       | SM4002 | SM4003 | SM4004 | SM4005 | SM4006 | SM4007 | UNITS |
|---------------------------------------------------------------------------------------------------------------|---------------|--------------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                        | VRRM          | 50           | 100    | 200    | 400    | 600    | 800    | 1000   | Volts |
| Maximum RMS Voltage                                                                                           | VRMS          | 35           | 70     | 140    | 280    | 420    | 560    | 700    | Volts |
| Maximum DC Blocking Voltage                                                                                   | VDC           | 50           | 100    | 200    | 400    | 600    | 800    | 1000   | Volts |
| Maximum Average Forward Rectified Current TA = 75°C                                                           | IO            | 1.0          |        |        |        |        |        |        | Amps  |
| Peak Forward Surge Current IFM(surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM          | 30           |        |        |        |        |        |        | Amps  |
| Maximum Thermal Resistance                                                                                    | (Note 2) RθJL | 20           |        |        |        |        |        |        | °C/W  |
|                                                                                                               | (Note 3) RθJA | 50           |        |        |        |        |        |        | °C/W  |
| Typical Junction Capacitance (Note 1)                                                                         | CJ            | 15           |        |        |        |        |        |        | pF    |
| Operating and Storage Temperature Range                                                                       | TJ, TSTG      | -55 to + 150 |        |        |        |        |        |        | °C    |

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

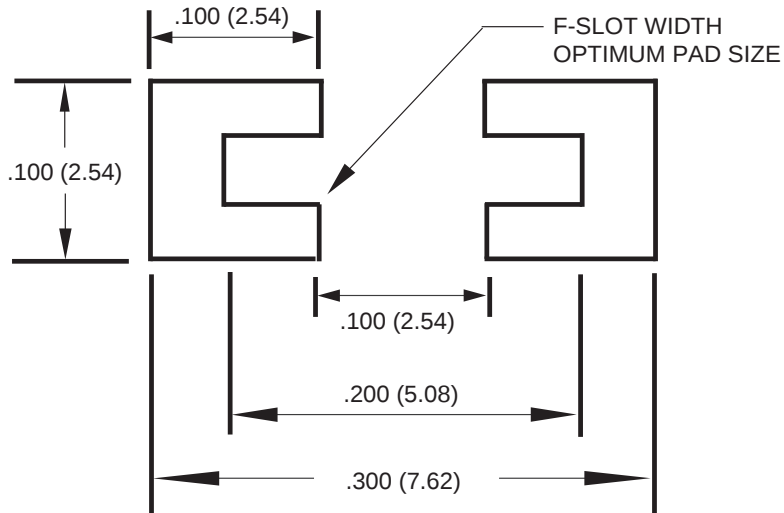
| CHARACTERISTICS                                                   | SYMBOL | SM4001 | SM4002 | SM4003 | SM4004 | SM4005 | SM4006 | SM4007 | UNITS |
|-------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Forward Voltage at 1.0A DC                                | VF     | 1.1    |        |        |        |        |        |        | Volts |
| Maximum Full Load Reverse Current, Full cycle Average at TA=75 °C | IR     | 30     |        |        |        |        |        |        | uAmps |
| Maximum DC Average Reverse Current at @TA = 25°C                  |        | 5.0    |        |        |        |        |        |        | uAmps |
| Rated DC Blocking Voltage @TA = 125°C                             |        | 50     |        |        |        |        |        |        | uAmps |

NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
2. Thermal resistance junction to terminal 6.0mm<sup>2</sup> copper pads to each terminal.  
3. Thermal resistance junction to ambient, 6.0mm<sup>2</sup> copper pads to each terminal.

# RATING AND CHARACTERISTIC CURVES ( SM4001 THRU SM4007 )



## Mounting Pad Layout



Dimensions in inches and (millimeters)