



# SM4007

## GENERAL PURPOSE SILICON RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

### FEATURES

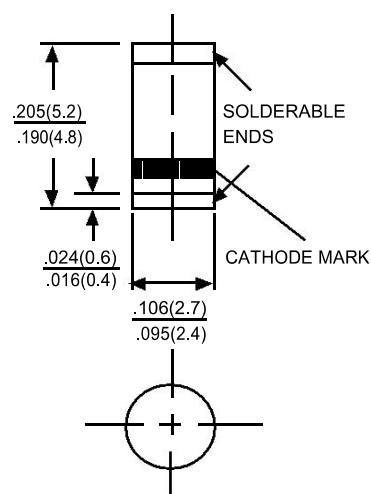
- \* Ideal for surface mounted applications
- \* Glass passivated junction
- \* Low leakage current
- \* Low profile package

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rated flame retardant
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.12 gram approx.



SM-1(DO-213AB)



Dimensions in inches and (millimeters)

|                                                                                                   | SYMBOL                 | SM4007      | UNITS         |
|---------------------------------------------------------------------------------------------------|------------------------|-------------|---------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$              | 1000        | Volts         |
| Maximum RMS Voltage                                                                               | $V_{RMS}$              | 700         | Volts         |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$               | 1000        | Volts         |
| Maximum Average Forward Rectified Current at $T_A = 75^{\circ}C$                                  | $I_O$                  | 1.0         | Amps          |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$              | 30          | Amps          |
| Maximum Instantaneous Forward Voltage at 1.0A DC                                                  | $V_F$                  | 1.1         | Volts         |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                                           | @ $T_A = 25^{\circ}C$  | 5.0         | mAmps         |
|                                                                                                   | @ $T_A = 100^{\circ}C$ | 50          |               |
| Typical Junction Capacitance (Note 1)                                                             | $C_J$                  | 9.0         | pF            |
| Typical Thermal Resistance (Note 2)                                                               | $R_{qJL}$              | 50          | $^{\circ}C/W$ |
| Operating and Storage Temperature Range                                                           | $T_J, T_{STG}$         | -55 to +150 | $^{\circ}C$   |

Note 1: Measured at 1 MHz and applied reverse voltage of 4.0 volts.

Note 2: Typical thermal resistance from junction to lead, with  $32in^2$  (8.0mm)<sup>2</sup> copper pads to each terminal.

# RATING AND CHARACTERISTIC CURVES (SM4001 THRU SM4007)

FIG. 1  
TYPICAL FORWARD CURRENT  
DERATING CURVE

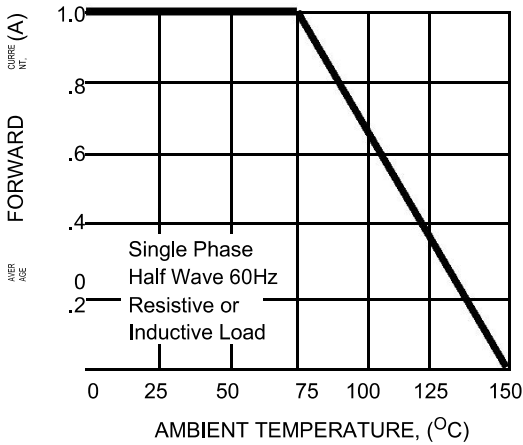


FIG. 2  
MAXIMUM NON-REPETITIVE FORWARD  
SURGE CURRENT

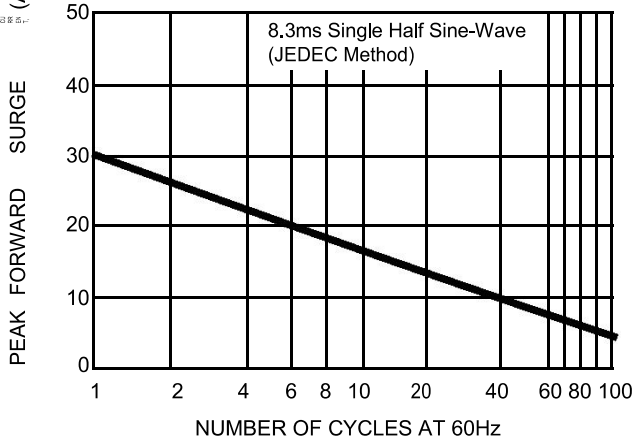


FIG. 3  
TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS

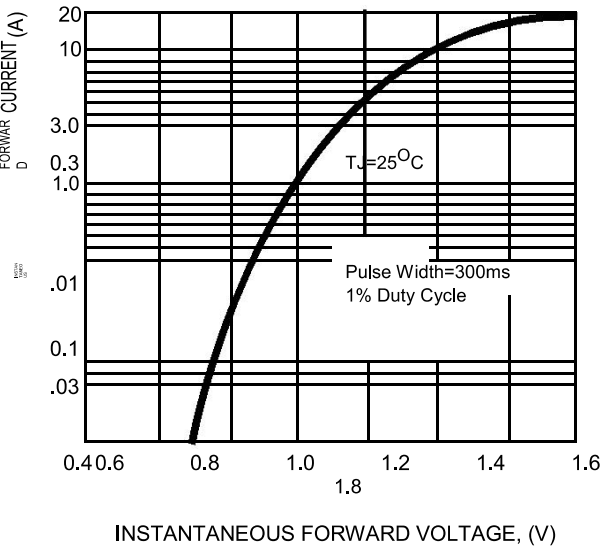


FIG. 4  
TYPICAL REVERSE CHARACTERISTICS

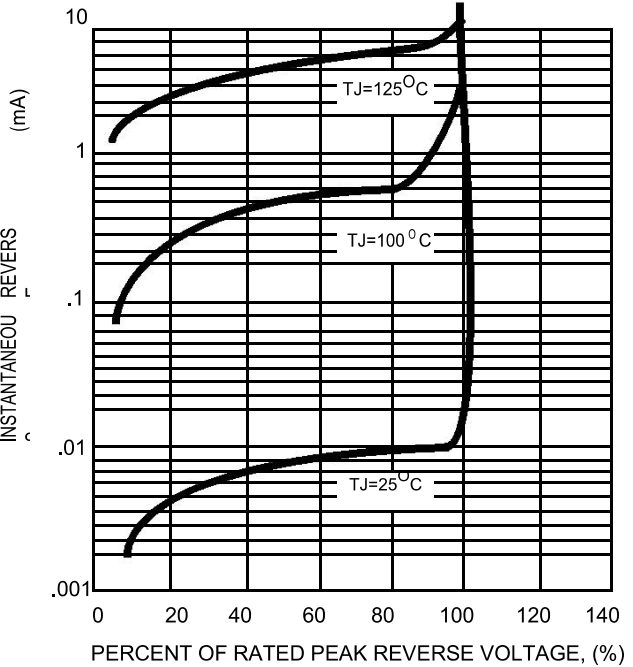


FIG. 5  
TYPICAL JUNCTION CAPACITANCE

