

# SM4001 THRU SM4007



## 1.0 AMP SURFACE MOUNT SILICON RECTIFIERS



### FEATURES

- \* Low forward voltage drop
- \* Low leakage current
- \* High reliability

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Metallurgically bonded construction
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.015 grams

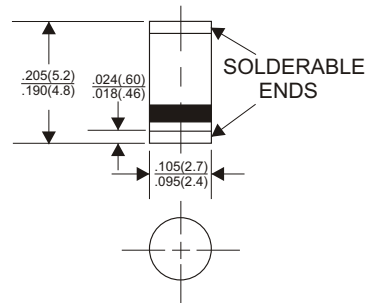
### VOLTAGE RANGE

50 to 1000 Volts

### CURRENT

1.0 Ampere

SM-1



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| TYPE NUMBER   | SM4001     | SM4002 | SM4003 | SM4004 | SM4005 | SM4006 | SM4007 | UNITS |
|---|------------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage  | 50         | 100    | 200    | 400    | 600    | 800    | 1000   | V     |
| Maximum RMS Voltage   | 35         | 70     | 140    | 280    | 420    | 560    | 700    | V     |
| Maximum DC Blocking Voltage   | 50         | 100    | 200    | 400    | 600    | 800    | 1000   | V     |
| Maximum Average Forward Rectified Current<br>.375"(9.5mm) Lead Length at Ta=75°C                      | 1.0        |        |        |        |        |        |        | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 30         |        |        |        |        |        |        | A     |
| Maximum Instantaneous Forward Voltage at 1.0A   | 1.1        |        |        |        |        |        |        | V     |
| Maximum DC Reverse Current Ta=25°C  | 5.0        |        |        |        |        |        |        | μA    |
| at Rated DC Blocking Voltage Ta=100°C   | 50         |        |        |        |        |        |        | μA    |
| Typical Junction Capacitance (Note 1)   | 15         |        |        |        |        |        |        | pF    |
| Typical Thermal Resistance R JA (Note 2)  | 50         |        |        |        |        |        |        | °C/W  |
| Operating and Storage Temperature Range Tj, Tstg  | -65 — +175 |        |        |        |        |        |        | °C    |

#### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance from Junction to Ambient.

# RATING AND CHARACTERISTIC CURVES (SM4001 THRU SM4007)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

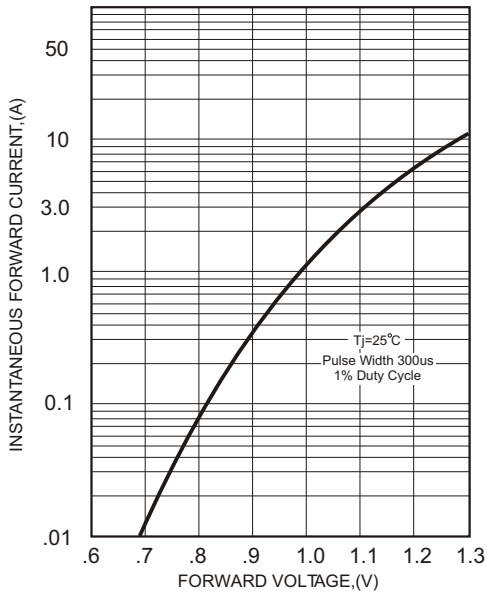


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

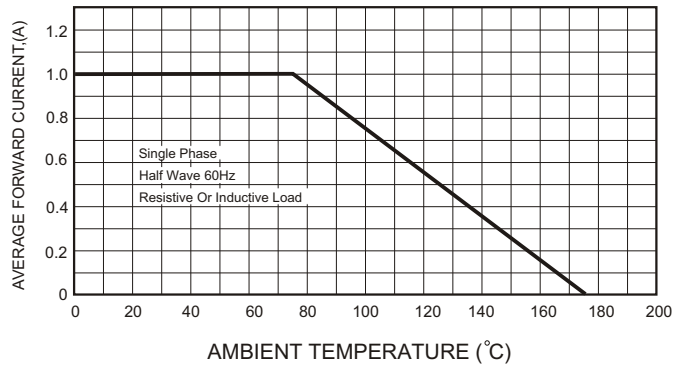


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG.3 - TYPICAL REVERSE CHARACTERISTICS

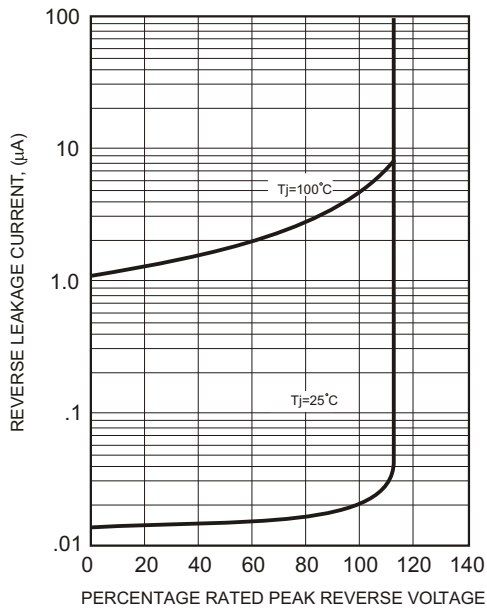


FIG.5-TYPICAL JUNCTION CAPACITANCE

