

# 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
- \* Both normal and Pb free product are available:
  - \* Normal: 80~95%Sn, 5~20%Pb
  - \* Pb free: 99 Sn above can meet Rohs environment substance directive request

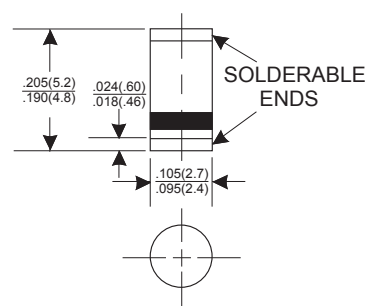
### VOLTAGE RANGE

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	1.0							A
See Fig. 2								
Peak Forward Surge Current, 8.3 ms single half sine-wave 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 RθJA (Note 2)	50							°C/W
Operating and Storage Temperature Range T <sub>J</sub> , T <sub>STG</sub>	-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

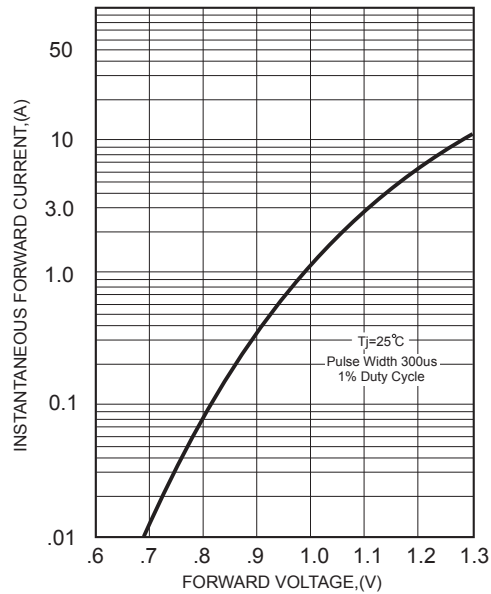


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

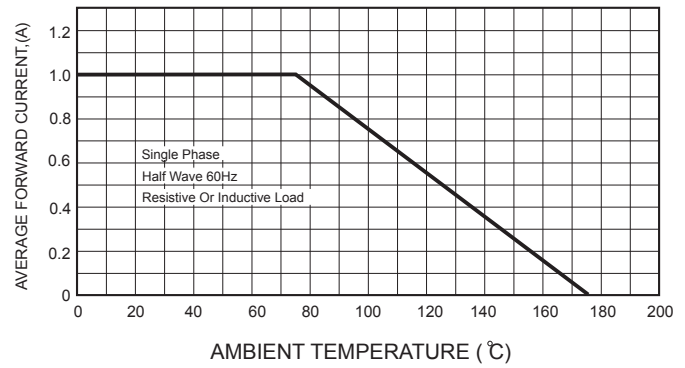


FIG.4-MAXIMUM NON-REPETITIVE FORWARD  
SURGE CURRENT

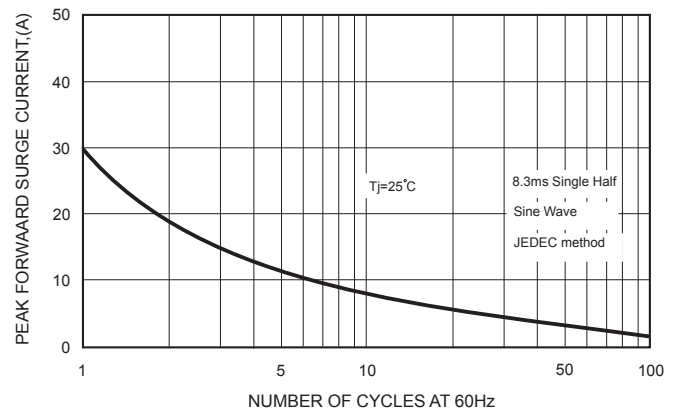


FIG.3 - TYPICAL REVERSE  
CHARACTERISTICS

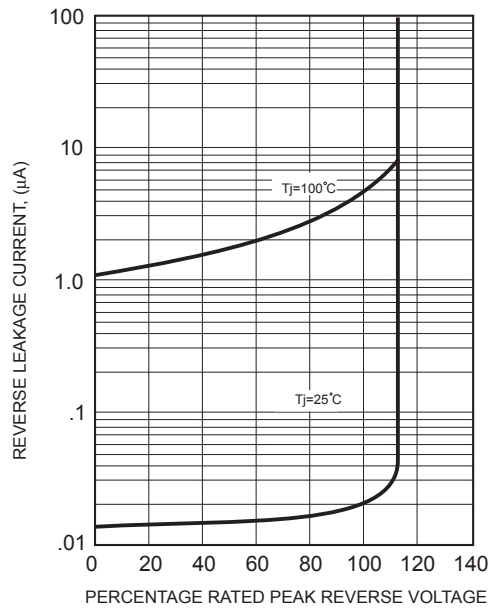


FIG.5-TYPICAL JUNCTION CAPACITANCE

