



# MELFSMA4001-4007

# SURFACE MOUNT SILICON RECTIFIER

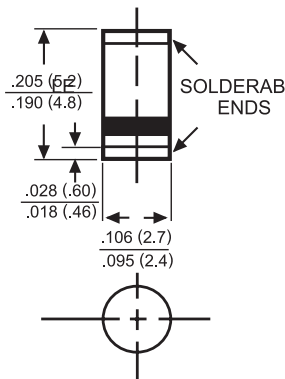
**VOLTAGE RANGE - 50 to 1000 Volts CURRENT - 1.0 Ampere**

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated solderable per MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.12 gram

### FEATURES

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



SM-1(SM-DO-213AB)



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%.

PARAMETER	SYMBOL	SM4001	SM4002	SM4003	SM4004	SM4005	SM4006	SM4007	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current $T_A = 25^\circ C$	$I_O$	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 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							uAmps
	@ $T_A = 125^\circ C$	50							
Typical Junction Capacitance ( Note 1 )	$C_J$	15							pF
Typical Thermal Resistance ( Note 2 )	$R \theta_{JL}$	20							$^\circ C/W$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 TO +175							$^\circ C$

Notes: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V<sub>DC</sub>.  
 2. Thermal Resistance from Junction to Ambient, .24<sup>2</sup>(6.0mm<sup>2</sup>) copper pad to each Terminal.



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## RATING AND CHARACTERISTIC CURVES

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

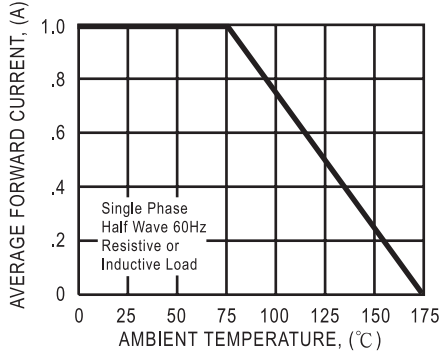


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

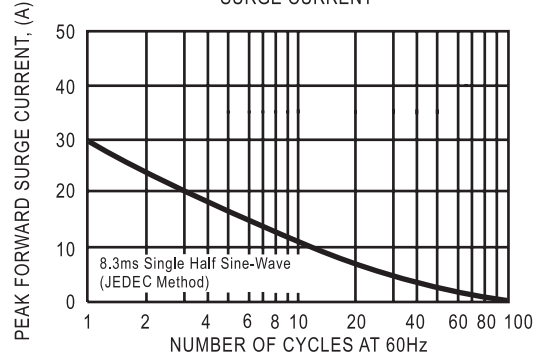


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

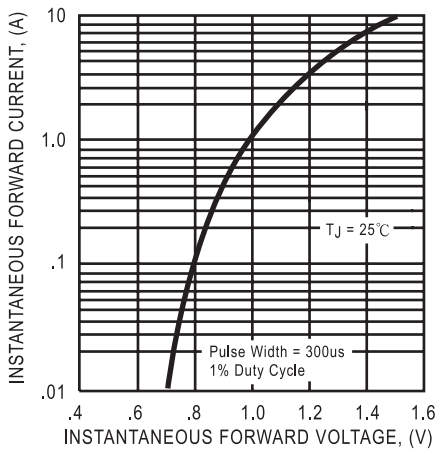


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

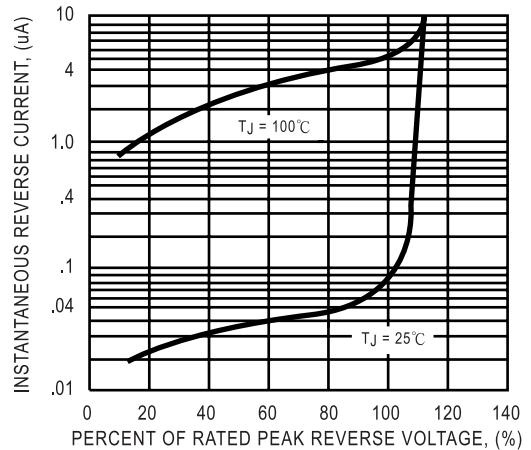


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

