RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

SM4001 THRU SM4007

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

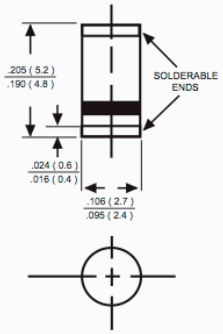
FEATURES
* Glass passivated device
* Ideal for surface mounted applications
* Low leakage current
* Metallurgically bonded construction
* Mounting position: Any
* Weight: 0.015 gram

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

DISCONTINUED-
"This series is replaced by the FM400X series that meets to the same fit and function parameters and share the same solder pad layout. The FM400X series is preferred for error-free vacuum pick-up and PCB assembly."



MELF



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25°C ambient temperature unless otherwise specfied.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

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

RATINGS	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 at Ambient Temperature	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
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	50							°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	20							°C/W
Typical Junction Capacitance (Note 2)	C_J	15							pF
Operating Temperature Range	T_J	150							°C
Storage Temperature Range	T_{STG}	-55 to + 150							°C

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

CHARACTERISTICS		SYMBOL	SM4001	SM4002	SM4003	SM4004	SM4005	SM4006	SM4007	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V_F	1.1							Volts
Maximum Average Reverse Current	@T_A = 25°C	I_R	5.0							uA
at Rated DC Blocking Voltage	@T_A = 100°C		100							uA

NOTES : 1. Thermal Resistance :Mounted on PCB.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. "Fully ROHS compliant","100% Sn plating (Pb-free)".

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RATING AND CHARACTERISTICS CURVES (SM4001 THRU SM4007)

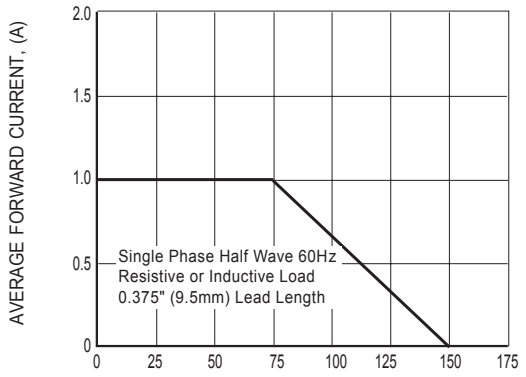


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

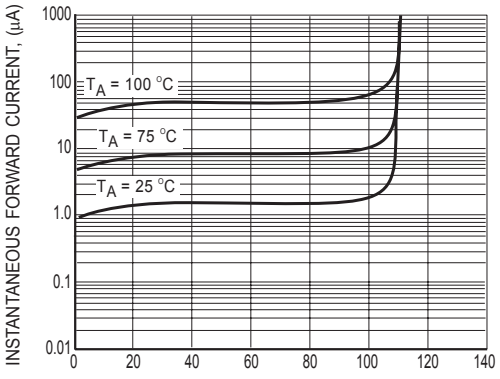


FIG.2 TYPICAL REVERSE CHARACTERISTICS

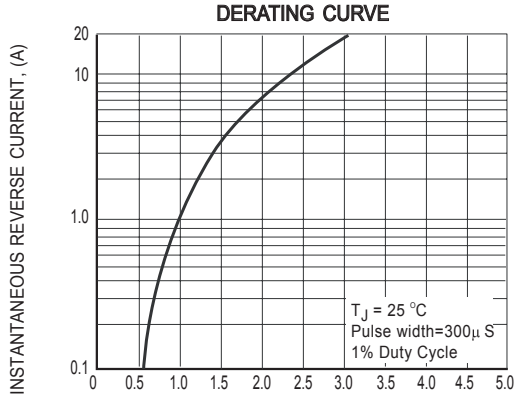


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

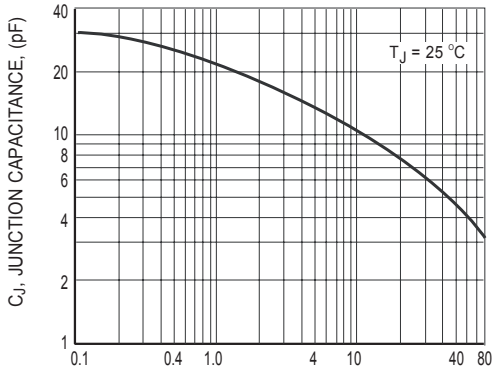


FIG.4 TYPICAL JUNCTION CAPACITANCE

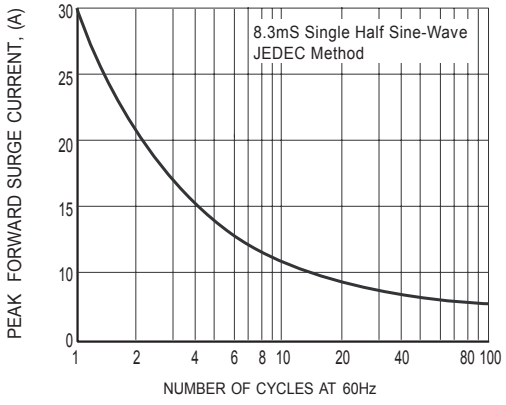
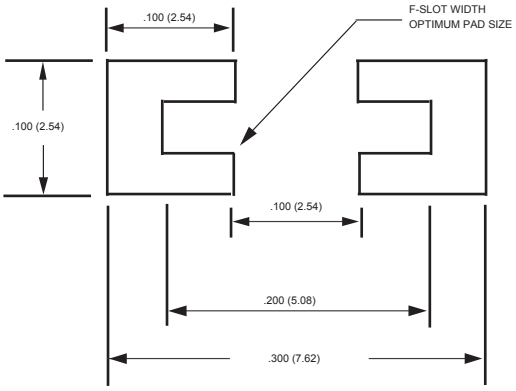


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

Mounting Pad Layout



Dimensions in inches and (millimeters)

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