

**SURFACE MOUNT GLASS PASSIVATED  
FAST RECOVERY 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**

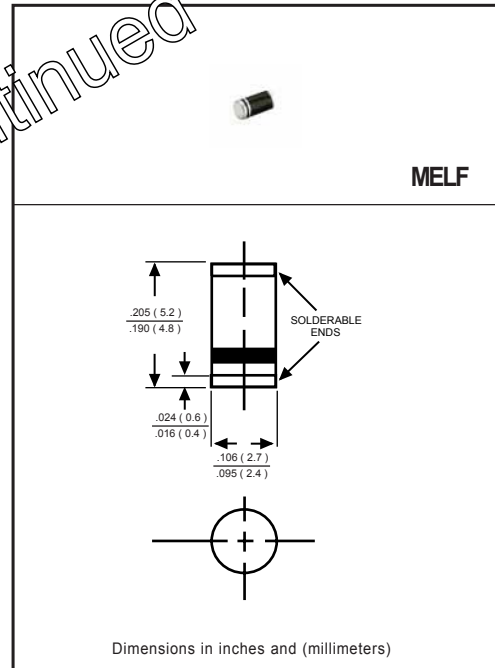
- \* Epoxy : Device has UL flammability classification 94V-0

**DISCONTINUED-**

"This series is replaced by the FFM10X series that meets to the same fit and function parameters and share the same solder pad layout. The FFM10X series is preferred for error-free vacuum pick-up and PCB assembly."

**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%.



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

RATINGS	SYMBOL	FSM101	FSM102	FSM103	FSM104	FSM105	FSM106	FSM107	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 55°C	I <sub>O</sub>	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							Amps
Typical Thermal Resistance (Note 4)	R <sub>θJA</sub>	75							°C/W
	R <sub>θJL</sub>	30							
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15							pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150							°C

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

CHARACTERISTICS	SYMBOL	FSM101	FSM102	FSM103	FSM104	FSM105	FSM106	FSM107	UNITS
Maximum Instantaneous Forward Voltage at 1.0ADC	V <sub>F</sub>	1.3							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	2.0							mAmps
		100							
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	150			250		500		nSec

- NOTES : 1. Reverse Recovery Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1.0A, I<sub>RR</sub> = -0.25A  
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts  
 3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
 4. Thermal Resistance : Mounted on PCB.

## RATING AND CHARACTERISTICS CURVES ( FSM101 THRU FSM107 )

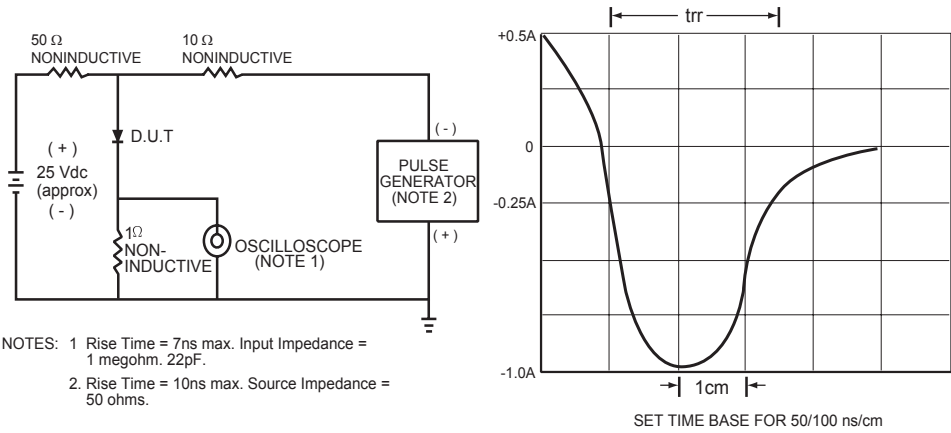


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

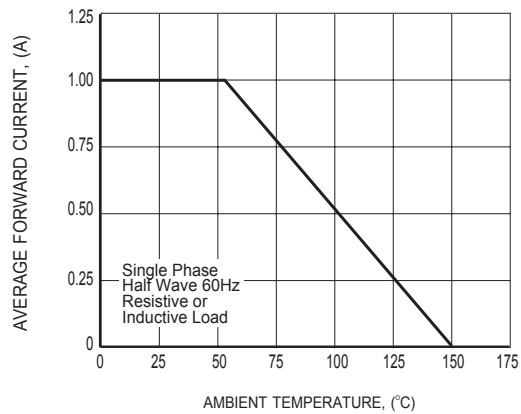


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

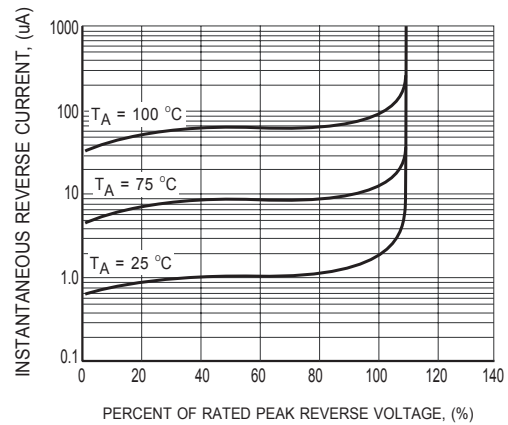
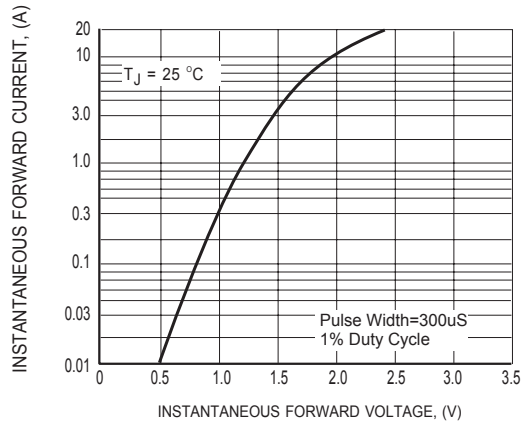
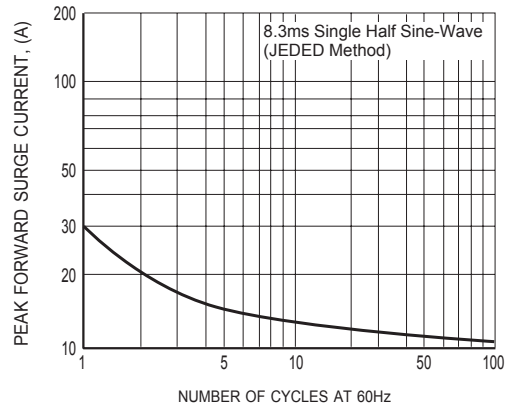


FIG.3 TYPICAL REVERSE CHARACTERISTICS

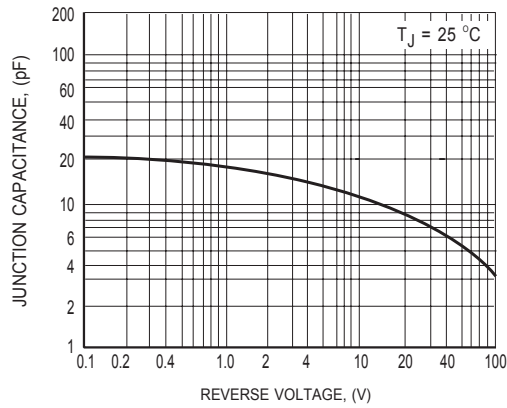
## RATING AND CHARACTERISTICS CURVES ( FSM101L THRU FSM107L )



**FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

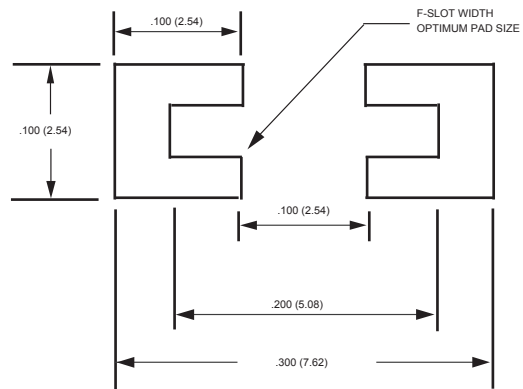


**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)