

**SURFACE MOUNT GLASS PASSIVATED  
HIGH EFFICIENCY 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**

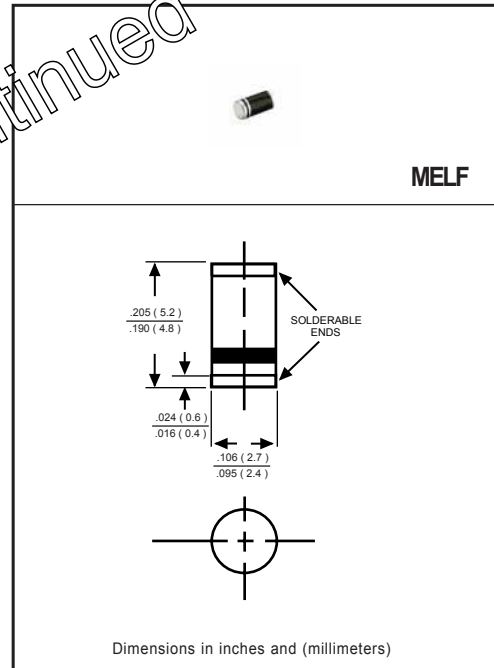
- \* Epoxy : Device has UL flammability classification 94V-0

**DISCONTINUED-**

"This series is replaced by the HFM10X series that meets to the same fit and function parameters and share the same solder pad layout. The HFM10X 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)**

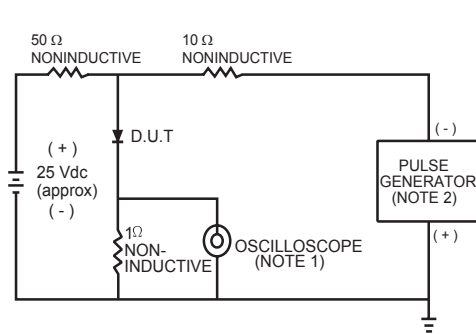
RATINGS	SYMBOL	HSM101	HSM102	HSM103	HSM104	HSM105	HSM106	HSM107	HSM108	UNITS	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	490	700	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at $T_A = 50^\circ\text{C}$	$I_O$	1.0								Amps	
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30								Amps	
Typical Junction Capacitance (Note 2)	$C_J$	15					12				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)**

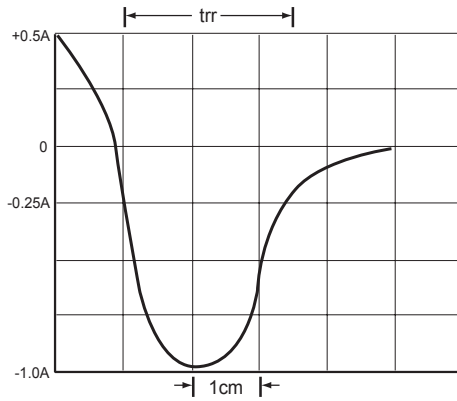
CHARACTERISTICS	SYMBOL	HSM101	HSM102	HSM103	HSM104	HSM105	HSM106	HSM107	HSM108	UNITS	
Maximum Instantaneous Forward Voltage at 1.0A DC	$V_F$	1.0			1.3		1.7			Volts	
Maximum Full Load Reverse Current, Full cycle Average $T_A = 55^\circ\text{C}$	$I_R$	50									$\mu\text{A}$
Maximum Average Reverse Current at Rated DC Blocking Voltage							5				$\mu\text{A}$
							100				$\mu\text{A}$
Maximum Reverse Recovery Time (Note 4)	$t_{rr}$	50					75			nSec	

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
3. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = -1.0\text{A}$ ,  $I_{RR} = -0.25\text{A}$ .

## RATING AND CHARACTERISTICS CURVES ( HSM101 THRU HSM108 )



- NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.  
 2 Rise Time = 10ns max. Source Impedance = 50 ohms.



SET TIME BASE FOR 50/100 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

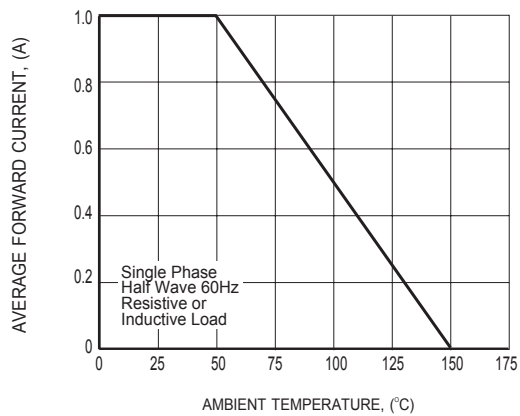


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

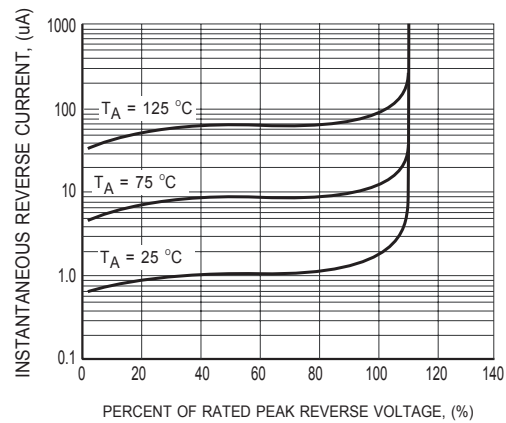
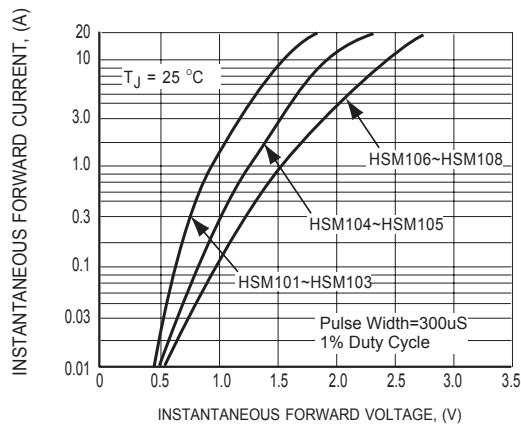
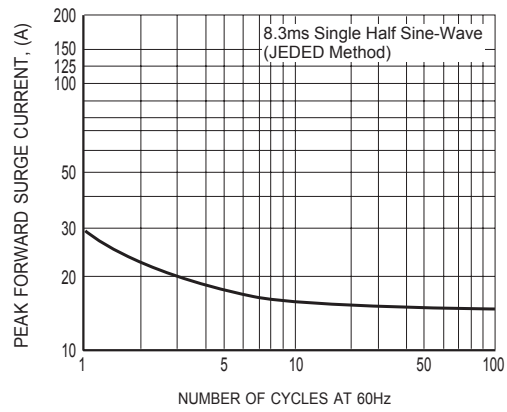


FIG.3 TYPICAL REVERSE CHARACTERISTICS

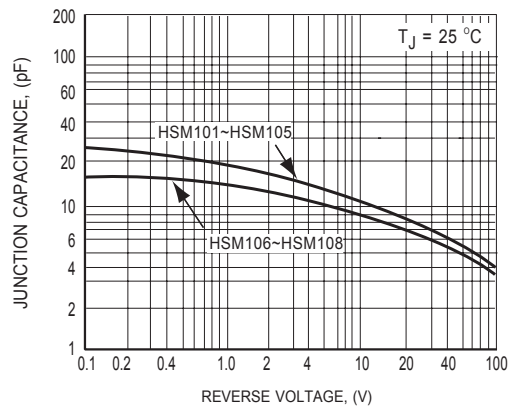
## RATING AND CHARACTERISTICS CURVES ( HSM101 THRU HSM108 )



**FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

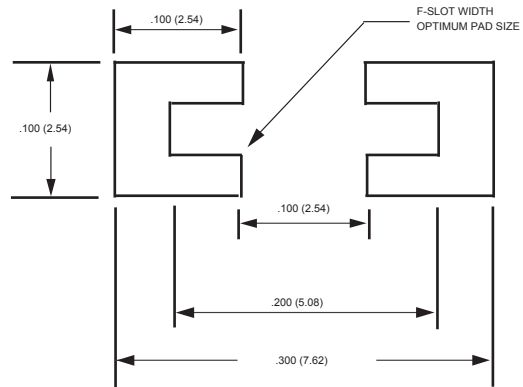


**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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