

**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: 0.057 gram

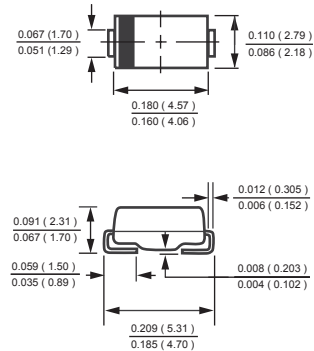
**MECHANICAL DATA**

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

**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%.

**DO-214AC**



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	HFM101	HFM102	HFM103	HFM104	HFM105	HFM106	HFM107	HFM108	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	210	280	420	490	700	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	300	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at T <sub>A</sub> = 50°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 1)	R <sub>θJL</sub>	27								°C/W	
Typical Thermal Resistance (Note 1)	R <sub>θJA</sub>	75								°C/W	
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15					12				pF
Operating Temperature Range	T <sub>J</sub>	150								°C	
Storage Temperature Range	T <sub>STG</sub>	-55 to + 150								°C	

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

CHARACTERISTICS		SYMBOL	HFM101	HFM102	HFM103	HFM104	HFM105	HFM106	HFM107	HFM108	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V <sub>F</sub>	1.0			1.3		1.7			Volts
Maximum Full Load Reverse Current, Full cycle Average T <sub>A</sub> =55°C		I <sub>R</sub>	50								μA
Maximum Average Reverse Current @T <sub>A</sub> = 25°C			5								μA
at Rated DC Blocking Voltage @T <sub>A</sub> = 125°C			100								μA
Maximum Reverse Recovery Time (Note 4)		trr	50					75			nSec

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)".  
4. Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = -1.0\text{A}$ ,  $I_{RR} = -0.25\text{A}$ .

2006-11

# RATING AND CHARACTERISTICS CURVES ( HFM101 THRU HFM108 )

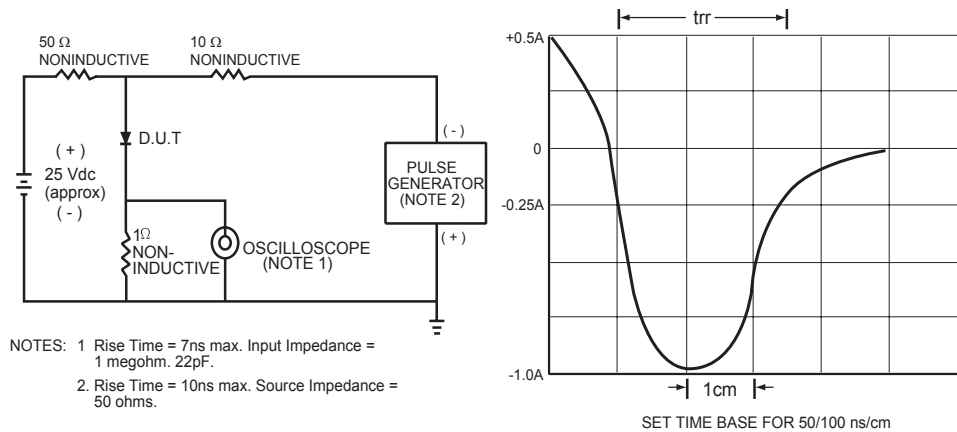


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

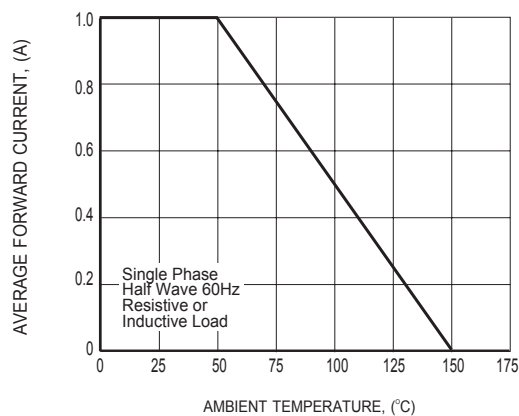


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

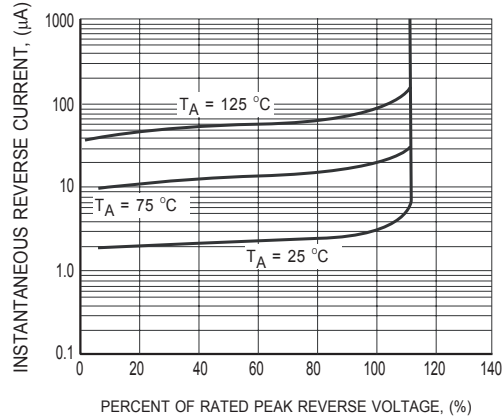
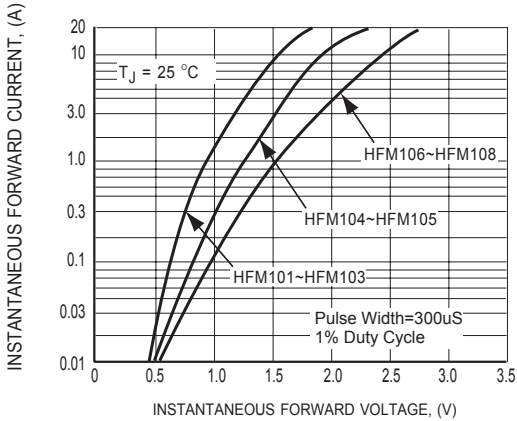
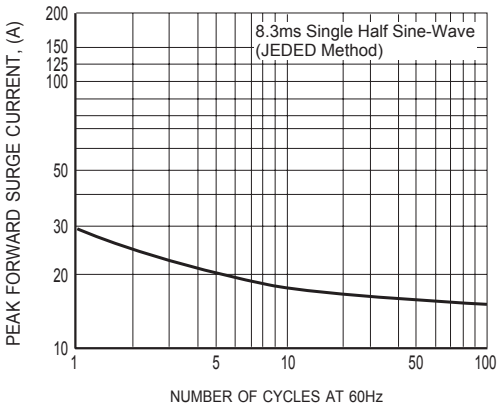


FIG.3 TYPICAL REVERSE CHARACTERISTICS

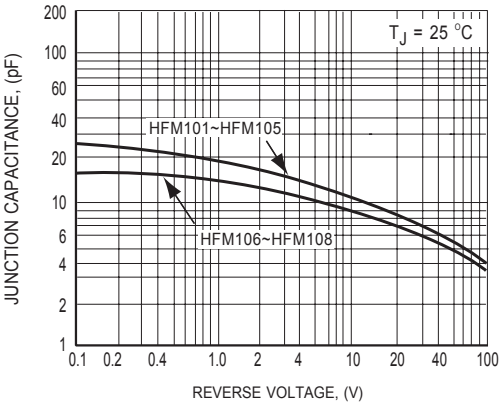
**RATING AND CHARACTERISTICS CURVES ( HFM101 THRU HFM108 )**



**FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

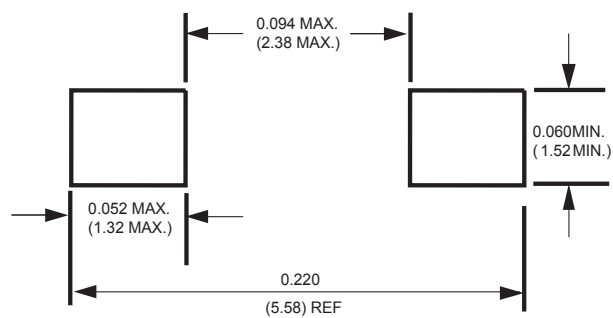


**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.6 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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