

**SURFACE MOUNT GLASS PASSIVATED
HIGH EFFICIENCY SILICON RECTIFIER
VOLTAGE RANGE 50 to 1000 Volts CURRENT 3.0 Ampere**

FEATURES

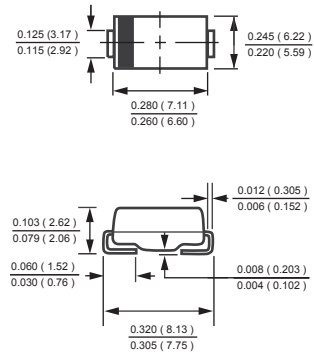
- * Glass passivated device
- * Ideal for surface mounted applications
- * Low leakage current
- * Metallurgically bonded construction
- * Mounting position: Any
- * Weight: 0.24 gram

MECHANICAL DATA

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



DO-214AB



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)

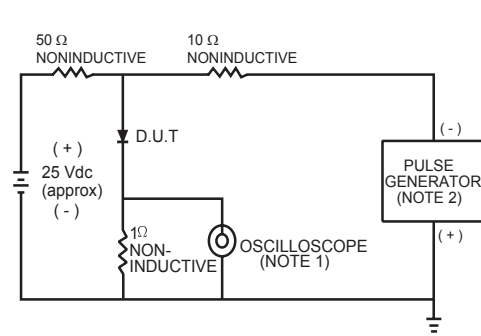
RATINGS	SYMBOL	HFM301	HFM302	HFM303	HFM304	HFM305	HFM306	HFM307	HFM308	UNITS	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	300	400	600	800	1000	Volts	
Maximum RMS Voltage	V_{RMS}	35	70	140	210	280	420	490	700	Volts	
Maximum DC Blocking Voltage	V_{DC}	50	100	200	300	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at $T_A = 50^\circ\text{C}$	I_O	3.0								Amps	
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	200				150			Amps		
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	15									$^\circ\text{C/W}$
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	60									$^\circ\text{C/W}$
Typical Junction Capacitance (Note 2)	C_J	70				50				pF	
Operating Temperature Range	T_J	150									$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to + 150									$^\circ\text{C}$

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

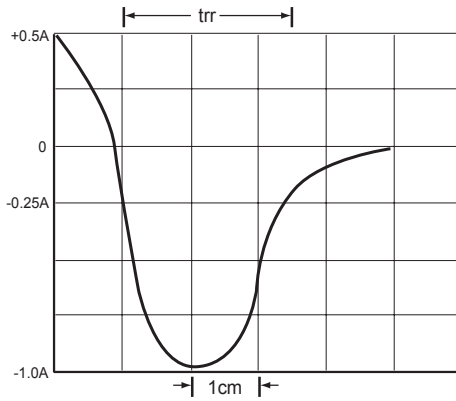
CHARACTERISTICS	SYMBOL	HFM301	HFM302	HFM303	HFM304	HFM305	HFM306	HFM307	HFM308	UNITS	
Maximum Instantaneous Forward Voltage at 3.0A DC	V_F	1.0		1.3		1.7				Volts	
Maximum Full Load Reverse Current, Full cycle Average $T_A = 55^\circ\text{C}$	I_R	50									μA
Maximum Average Reverse Current @ $T_A = 25^\circ\text{C}$		5									μA
at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$		150									μA
Maximum Reverse Recovery Time (Note 4)	t_{rr}	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: $I_F = 0.5\text{A}$, $I_R = -1.0\text{A}$, $I_{RR} = -0.25\text{A}$.

RATING AND CHARACTERISTICS CURVES (HFM301 THRU HFM308)



- 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

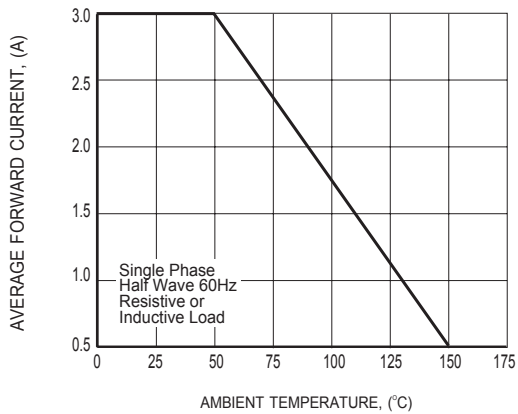


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

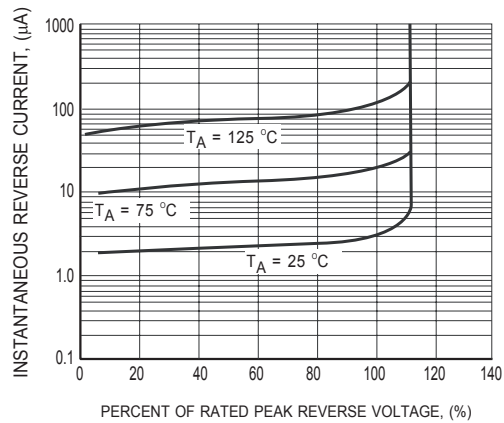


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (HFM301 THRU HFM308)

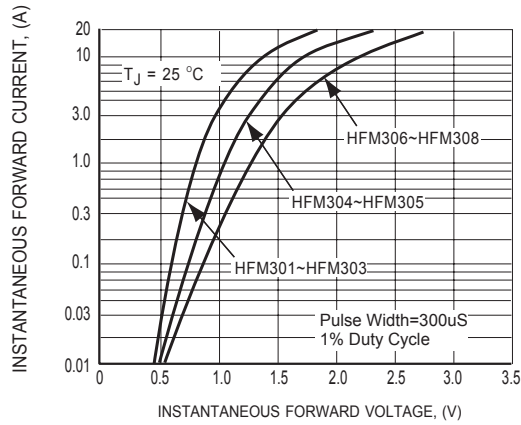


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

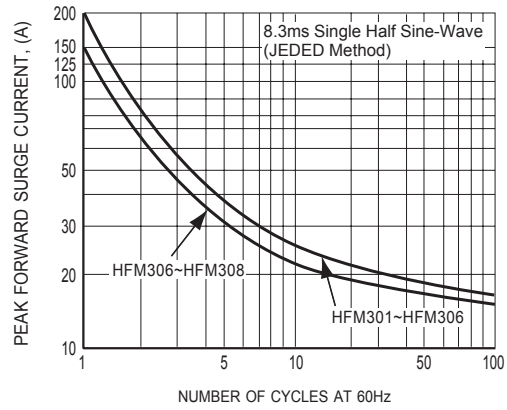


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

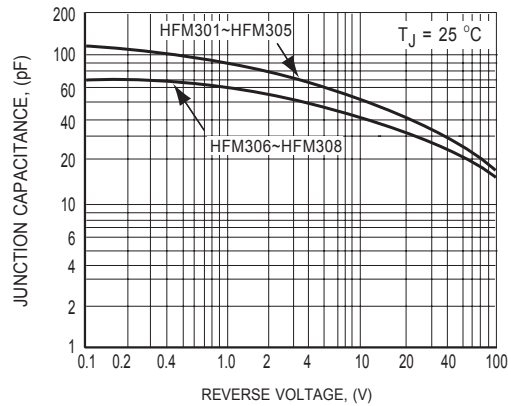
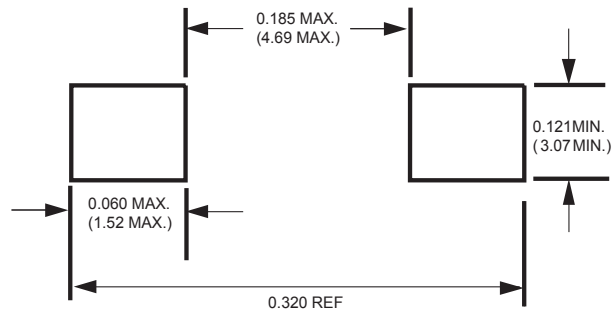


FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

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