RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

HFM301 THRU HFM308

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

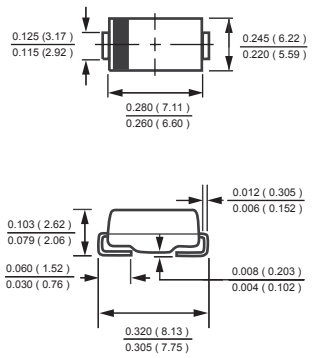
MECHANICAL DATA

* Epoxy: Device has UL flammability classification 94V-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-214AB



Dimensions in inches and (millimeters)

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°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								°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	60								°C/W
Typical Junction Capacitance (Note 2)	C_J	70					50			pF
Operating Temperature Range	T_J	150								°C
Storage Temperature Range	T_{STG}	-55 to + 150								°C

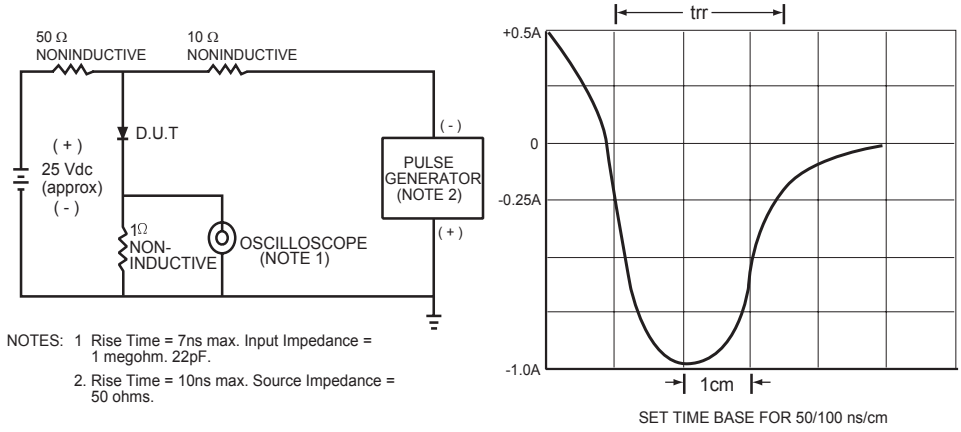
ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	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°C		I_R	50								µA
Maximum Average Reverse Current	@T_A = 25°C		5								µA
at Rated DC Blocking Voltage	@T_A = 125°C		150								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= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.

2006-11

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.

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

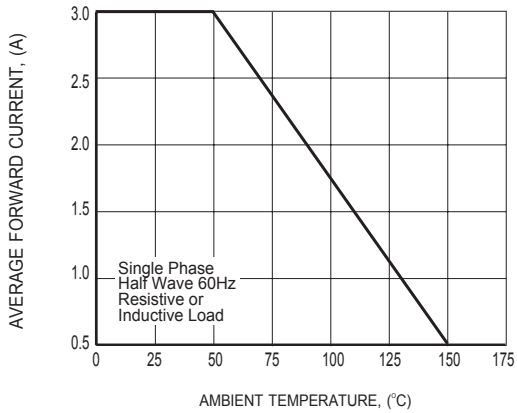


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

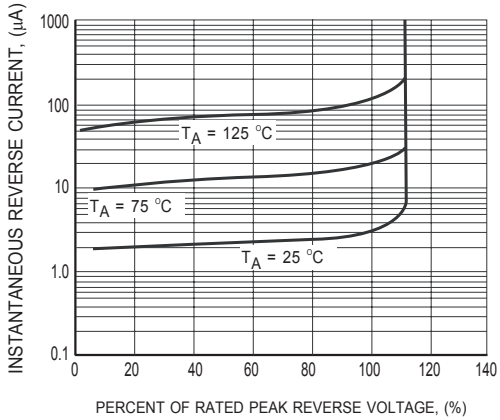


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (HFM301 THRU HFM308)

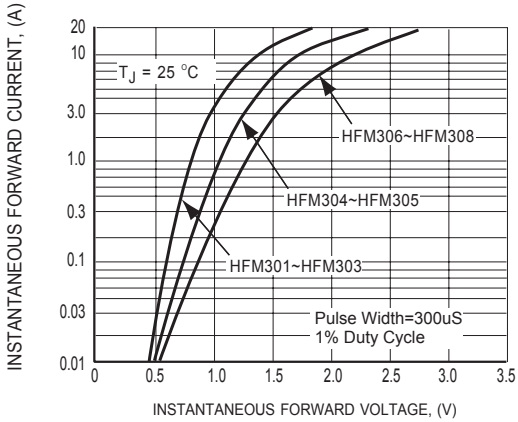


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

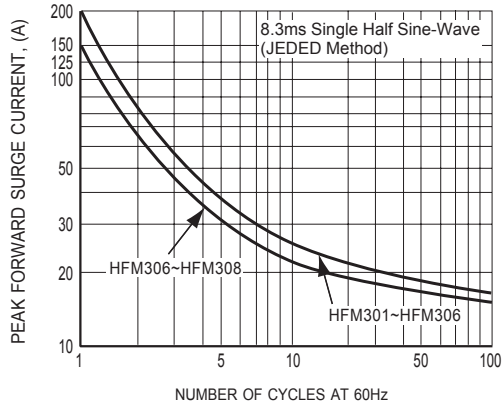


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

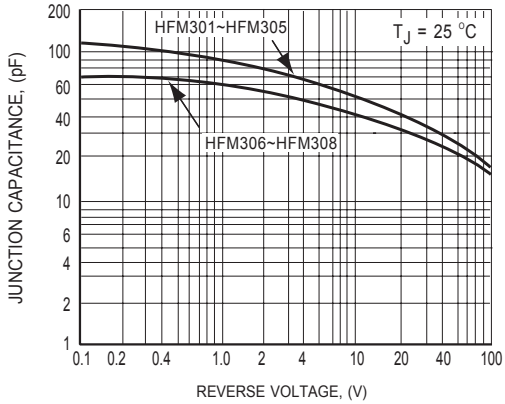
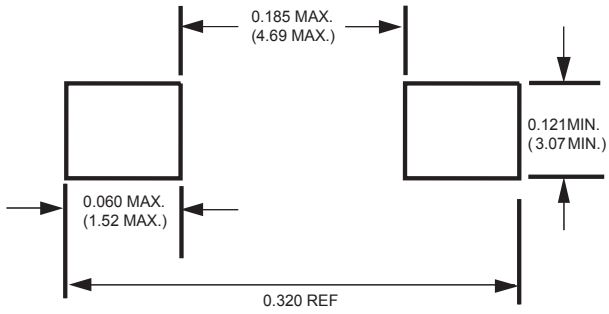


FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

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