WILLAS

HFM101 THRU HFM108

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: 0.066 gram
* RoHS product for packing code suffix "G"
  Halogen free product for packing code suffix "H"

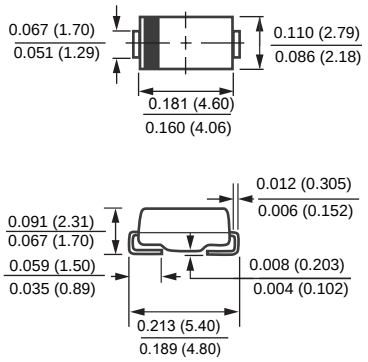
MECHANICAL DATA

* 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%.

SMA/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_{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	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 Thermal Resistance (Note 1)	$R_{\theta JL}$	27								°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	75								°C/W
Typical Junction Capacitance (Note 2)	C_J	15					12			pF
Operating Temperature Range	T_J	-65 to + 175								°C
Storage Temperature Range	T_{STG}	-65 to + 175								°C

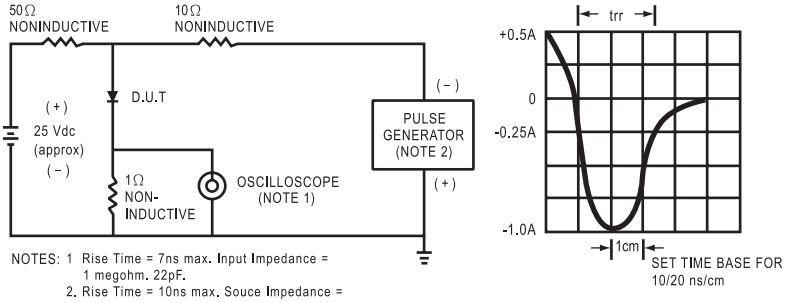
ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	HFM101	HFM102	HFM103	HFM104	HFM105	HFM106	HFM107	HFM108	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V_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		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. Test Conditions: I_F= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.

RATING AND CHARACTERISTIC CURVES (HFM101 THRU HFM108)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

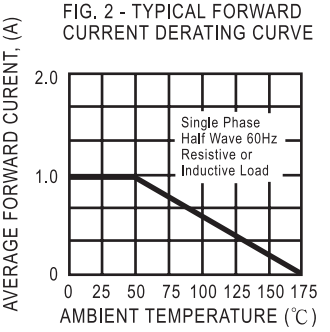


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

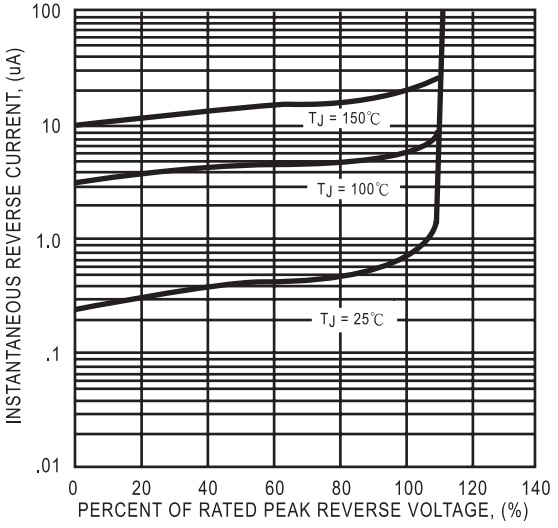


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

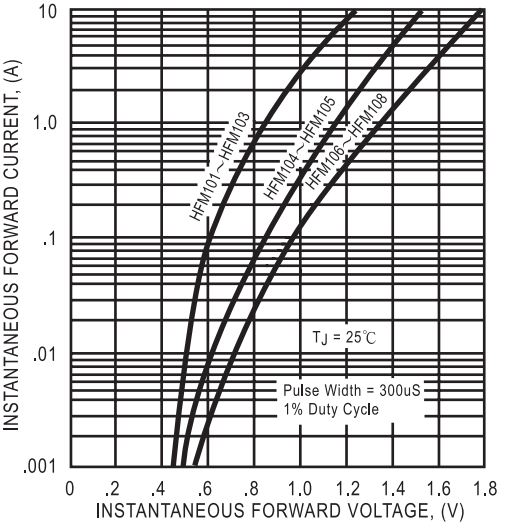


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

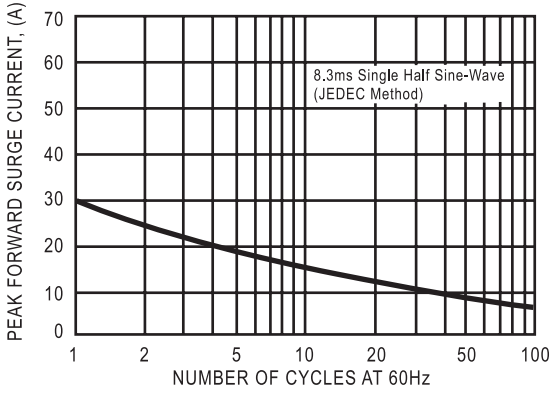


FIG. 6 - TYPICAL JUNCTION CAPACITANCE