THE DATASHEET OF

HFM103W-W

RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

HFM101W THRU HFM108W

SURFACE MOUNT
HIGH EFFICIENCY SILICON RECTIFIER
VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere

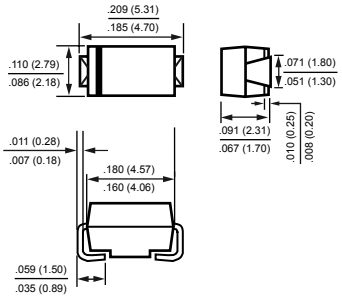
FEATURES

* Ideal for surface mounted applications
* Low leakage current
* Metallurgically bonded construction
* Mounting position: Any
* Weight: 0.078 gram

MECHANICAL DATA

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

SMX



Dimensions in inches and (millimeters)

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	HFM101W	HFM102W	HFM103W	HFM104W	HFM105W	HFM106W	HFM107W	HFM108W	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 Current Squared Time	I^2t	3.74								A^2S
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	150								°C
Storage Temperature Range	T_{STG}	-55 to + 150								°C

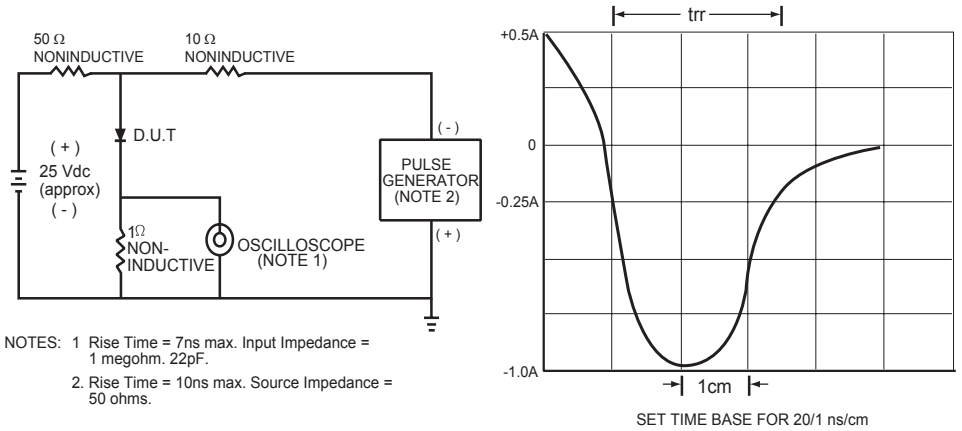
ELECTRICAL CHARACTERISTICS(@TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	HFM101W	HFM102W	HFM103W	HFM104W	HFM105W	HFM106W	HFM107W	HFM108W	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. "RoHS compliant"
4. Test Conditions: I_F= 0.5A, I_R= -1.0A, I_{RR}= -0.25A.

2024-01
REV:B

RATING AND CHARACTERISTICS CURVES (HFM101W THRU HFM108W)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.

SET TIME BASE FOR 20/1 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

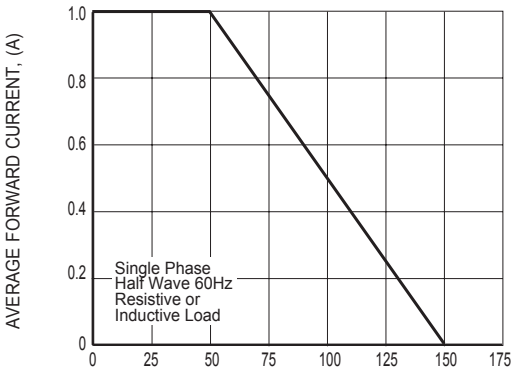


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

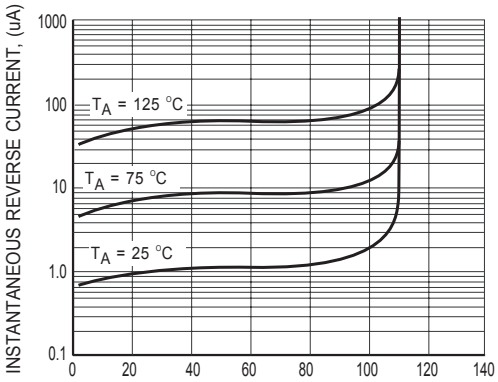


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (HFM101W THRU HFM108W)

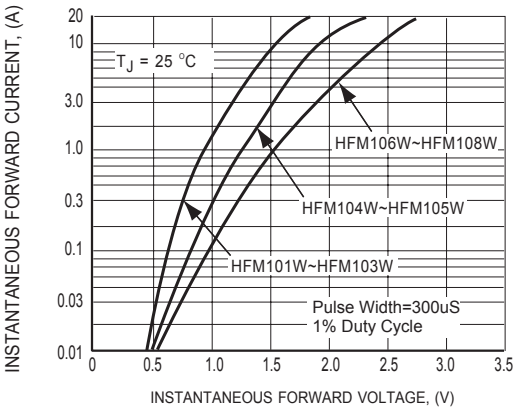


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

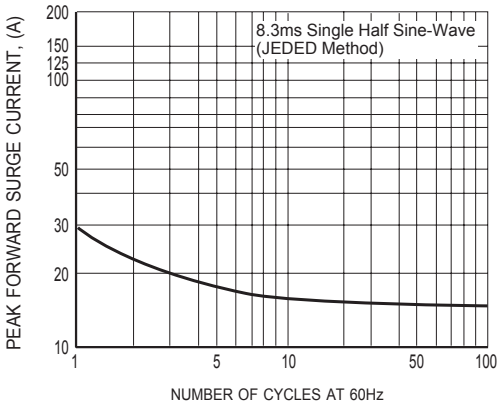


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

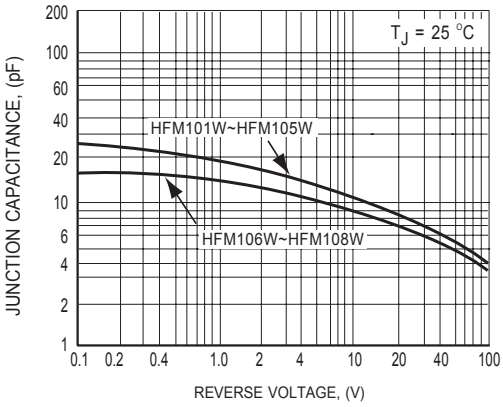
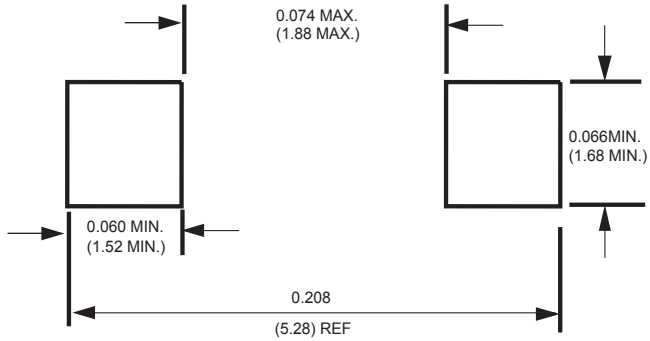


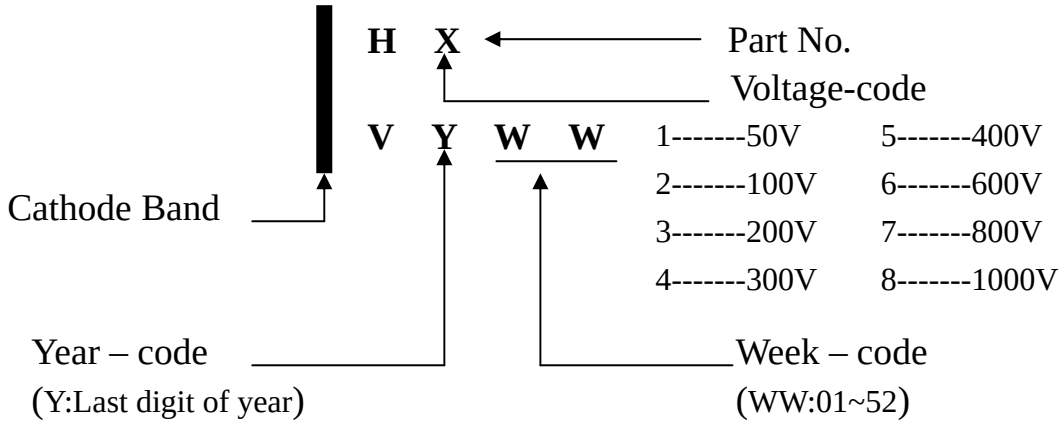
FIG.6 TYPICAL JUNCTION CAPACITANCE

Mounting Pad Layout



Dimensions in inches and (millimeters)

Marking Description



PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMX	-W	7,500	15,000	---	---	330	360*355*360	120,000	15.2

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMX	-T	2,000	8,000	---	---	178	390*205*310	64,000	7.8

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