RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

HFM501 THRU HFM508

SURFACE MOUNT GLASS PASSIVATED HIGH EFFICIENCY SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 5.0 Amperes

FEATURES

* Low power loss,high efficiency
* Low leakage
* Low forward voltage drop
* High current capability
* High speed switching
* High reliability
* High current surge

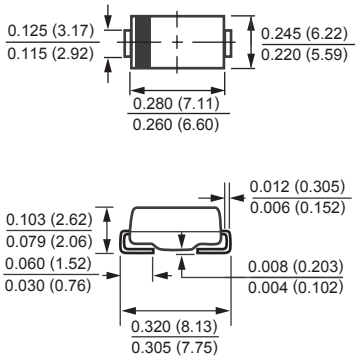
MECHANICAL DATA

* Epoxy: Device has UL flammability classification 94V-O
* Case: Molded plastic
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 1.20 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
resistive or inductive load.

SMC



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	HFM501	HFM502	HFM503	HFM504	HFM505	HFM506	HFM507	HFM508	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	560	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	5.0								Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	200					150			Amps
Current Squarad Time	I^2t	165.9					93.3			A^2/Sec
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	8								°C/W
	$R_{\theta JA}$	17								
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	HFM501	HFM502	HFM503	HFM504	HFM505	HFM506	HFM507	HFM508	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC	V_F	1.0			1.3		1.7			Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage @T_A = 25°C	I_R	10								μA
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T_L=55°C		150								
Maximum Reverse Recovery Time (Note 4)	trr	50					75			nSec

NOTES : 1. Thermal Resistance : At 9.5mm lead length, PCB mounted.
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.
5. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

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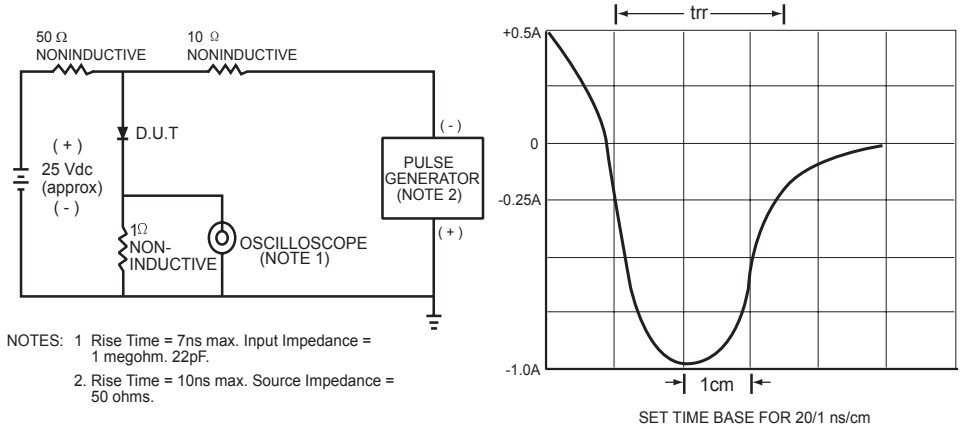
RATING AND CHARACTERISTICS CURVES (HFM501 THRU HFM508)



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

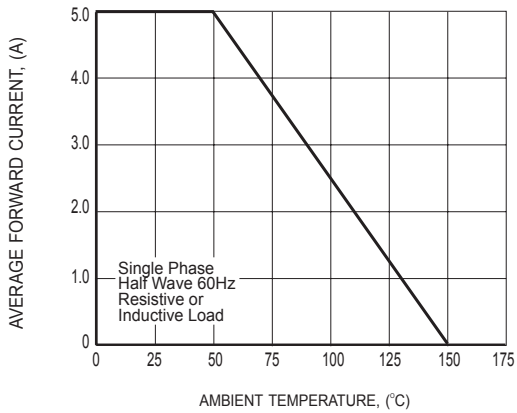
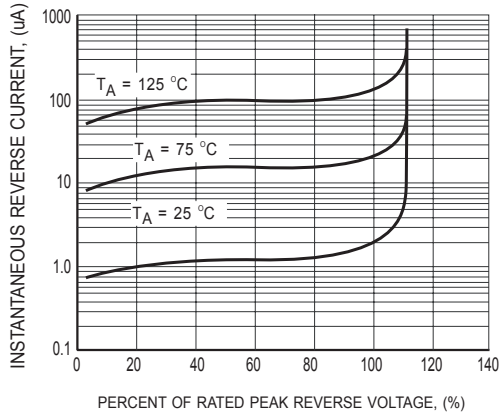


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE



TYPICAL CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (HFM501 THRU HFM508)

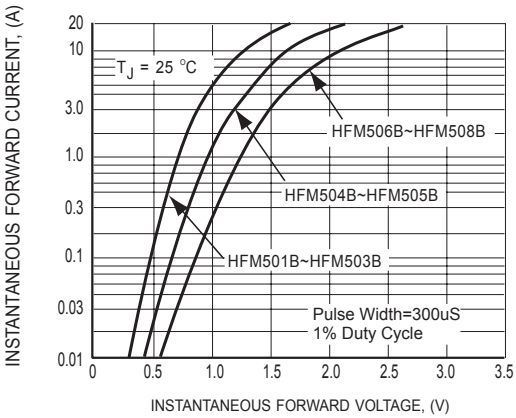


FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

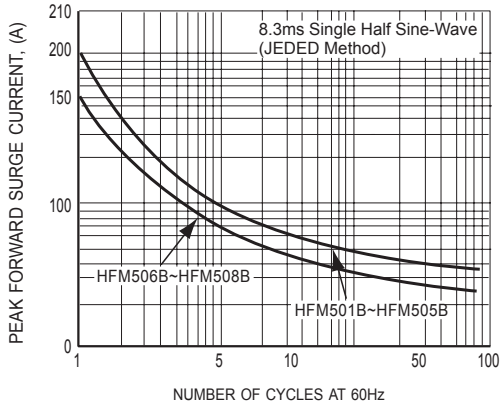


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

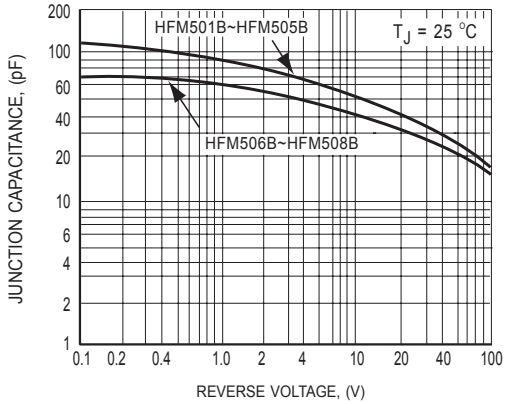
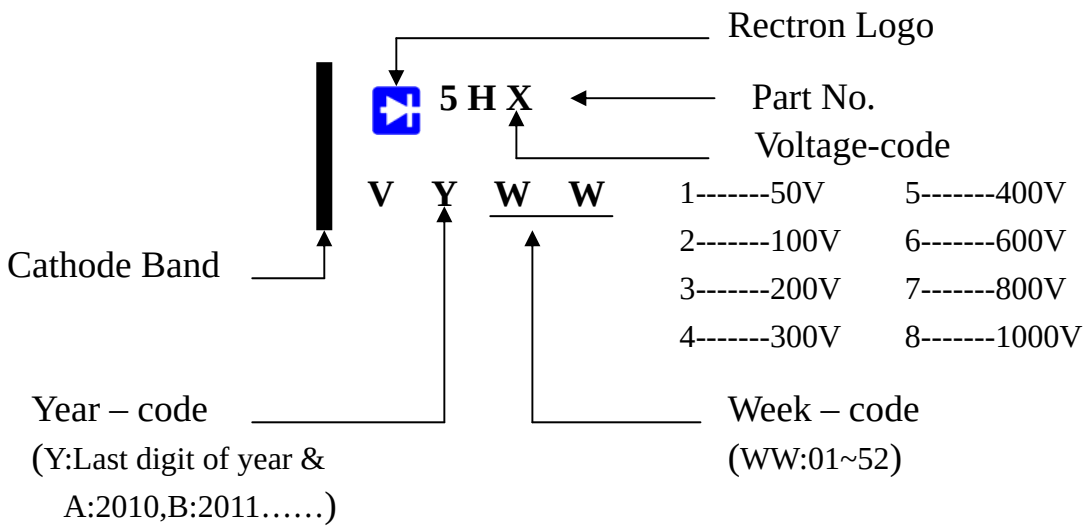


FIG.6 TYPICAL JUNCTION CAPACITANCE

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)
SMC	-W/-T	3,000	3,000	---	---	330	360*355*360	24,000	11.50