

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

**FEATURES**

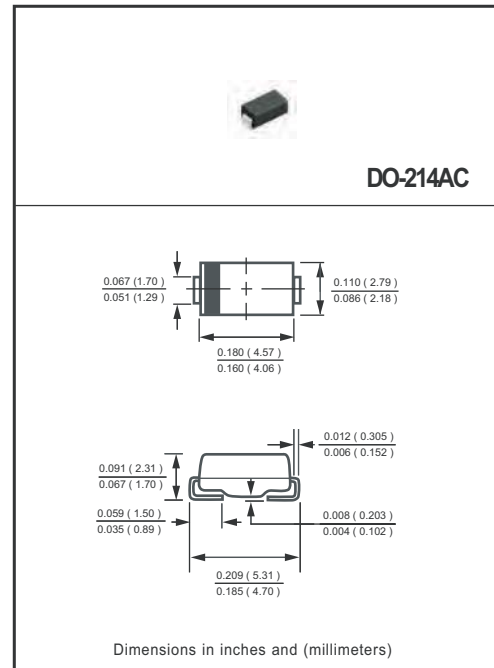
- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* P/N suffix V means AEC-Q101 qualified
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-0
- \* Mounting position: Any
- \* Weight: 0.057 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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



**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 $T_A = 50^\circ\text{C}$	$I_O$	1.0								Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30								Amps
Current Squared Time	$I^2t$	3.7								A <sup>2</sup> S
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	$T_J$	-55 to + 150								°C
Storage Temperature Range	$T_{STG}$	-55 to + 150								°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 $T_A = 55^\circ\text{C}$	$I_R$	50								$\mu\text{A}$
Maximum Average Reverse Current @ $T_A = 25^\circ\text{C}$		5								$\mu\text{A}$
at Rated DC Blocking Voltage @ $T_A = 150^\circ\text{C}$		400								$\mu\text{A}$
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 ( HFM101 THRU HFM108 )

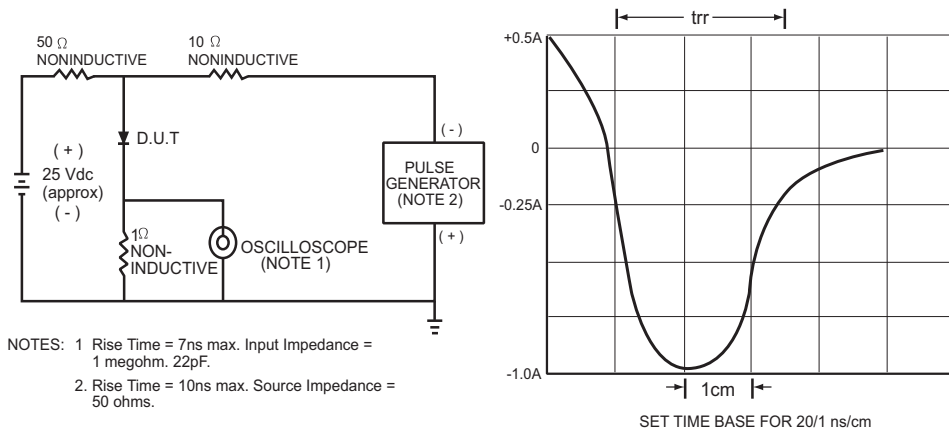


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

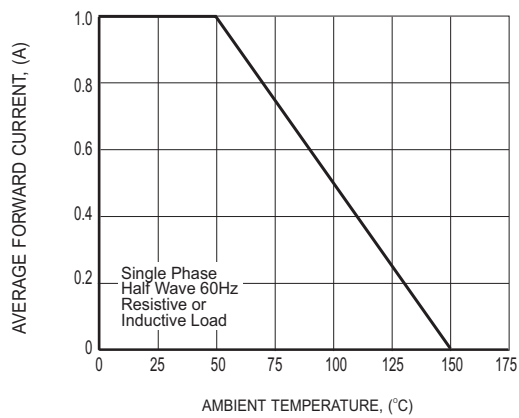


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

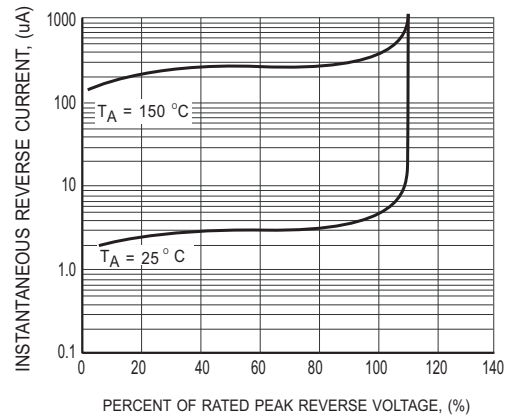


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

## RATING AND CHARACTERISTICS CURVES ( HFM101 THRU HFM108 )

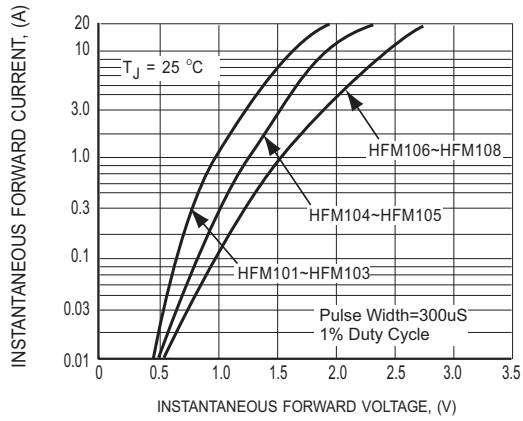


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

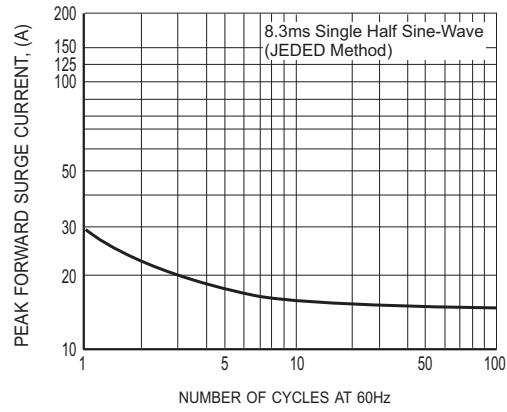


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

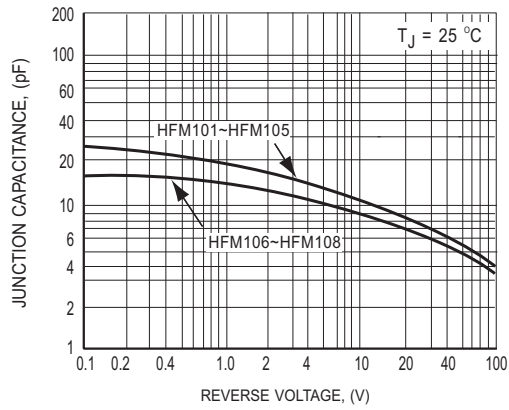
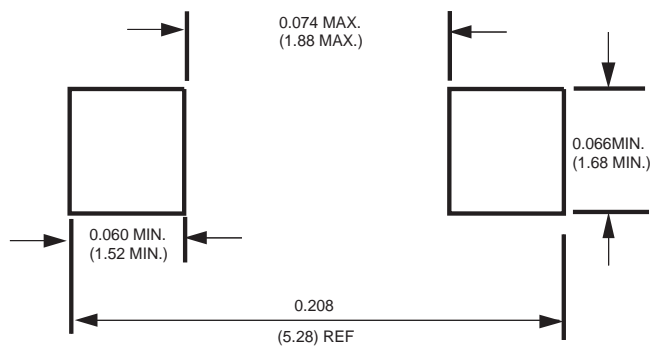


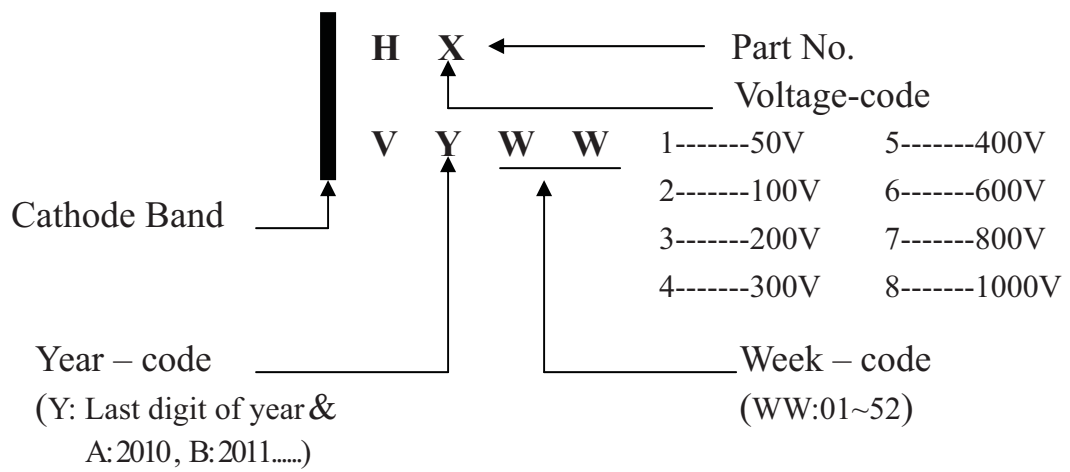
FIG.6 TYPICAL JUNCTION CAPACITANCE

## Mounting Pad Layout



Dimensions in inches and (millimeters)

## 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)
SMA	-T	1,500	6,000	---	---	178	390*205*310	48,000	8.40
SMA	-W	5,000	10,000	---	---	330	360*355*360	80,000	14.20