

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

**FEATURES**

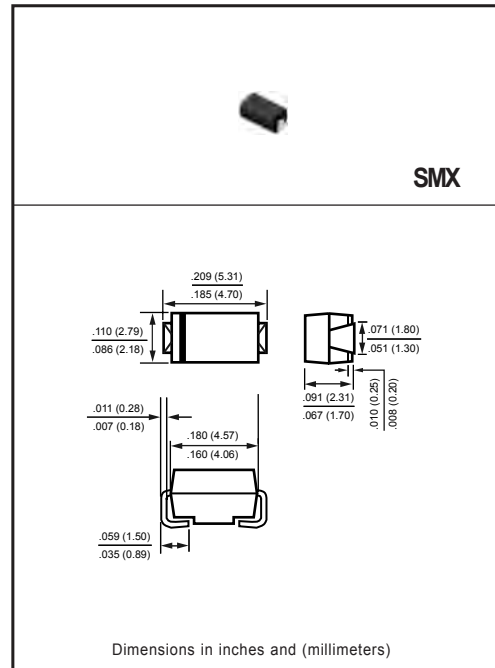
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.078 gram

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0

**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)**

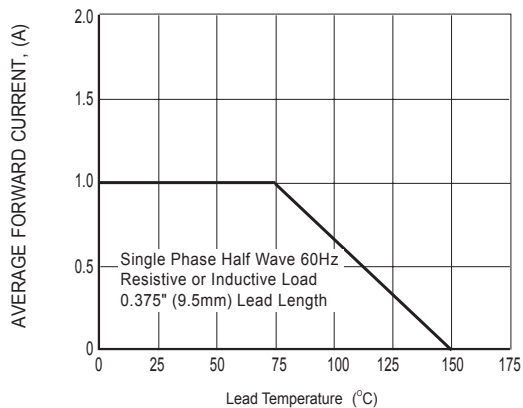
| RATINGS   | SYMBOL          | FM4001W      | FM4002W | FM4003W | FM4004W | FM4005W | FM4006W | FM4007W | UNITS            |
|---|-----------------|--------------|---------|---------|---------|---------|---------|---------|------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts            |
| Maximum RMS Voltage   | $V_{RMS}$       | 35           | 70      | 140     | 280     | 420     | 560     | 700     | Volts            |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts            |
| Maximum Average Forward Rectified Current at Ambient Temperature                                  | $I_O$           | 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 Square Time   | $I^2T$          | 3.7          |         |         |         |         |         |         | A <sup>2</sup> S |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JA}$ | 80           |         |         |         |         |         |         | °C/W             |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JL}$ | 30           |         |         |         |         |         |         | °C/W             |
| Typical Junction Capacitance (Note 2)   | $C_J$           | 15           |         |         |         |         |         |         | 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)**

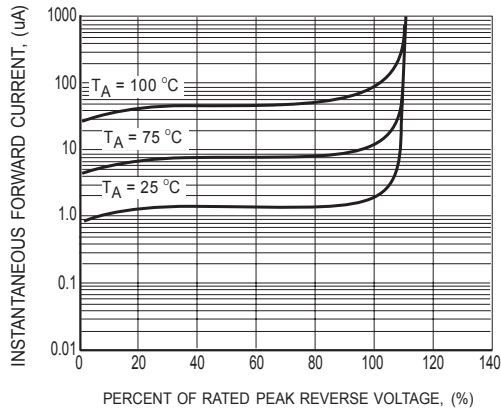
| CHARACTERISTICS   | SYMBOL | FM4001W                     | FM4002W | FM4003W | FM4004W | FM4005W | FM4006W | FM4007W | UNITS |
|---|--------|-----------------------------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC  | $V_F$  | 1.1                         |         |         |         |         |         |         | Volts |
| Maximum Full Load Reverse Current, Full cycle Average at $T_A=75^\circ\text{C}$         | $I_R$  | 30                          |         |         |         |         |         |         | uA    |
| Maximum Average Reverse Current at Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$ |        | 5.0                         |         |         |         |         |         |         | uA    |
|   |        | @ $T_A = 100^\circ\text{C}$ | 100     |         |         |         |         |         |       |

- 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)".

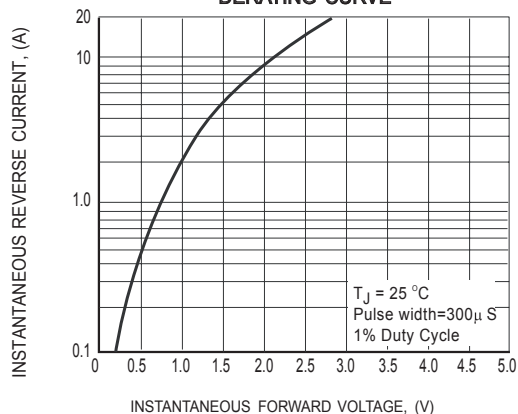
## RATING AND CHARACTERISTICS CURVES ( FM4001W THRU FM4007W )



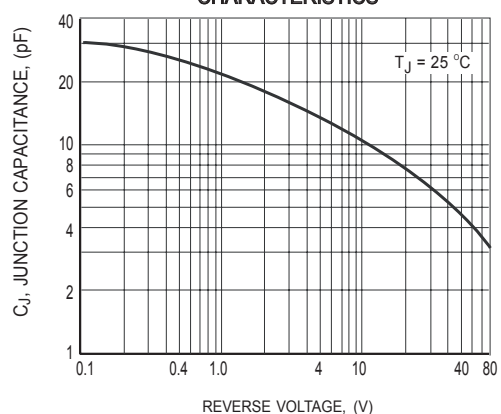
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



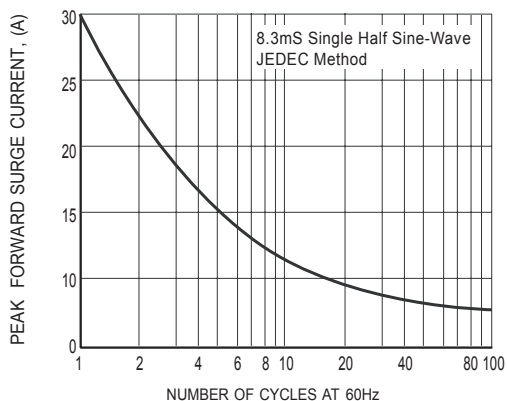
**FIG.2 TYPICAL REVERSE CHARACTERISTICS**



**FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

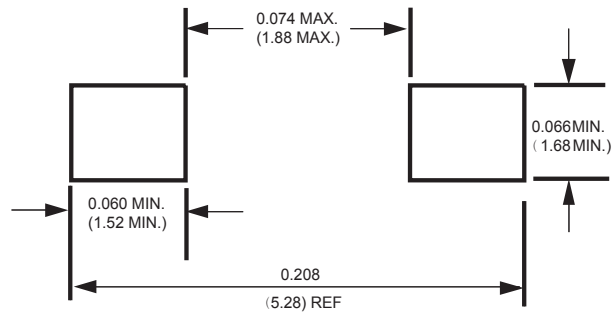


**FIG.4 TYPICAL JUNCTION CAPACITANCE**



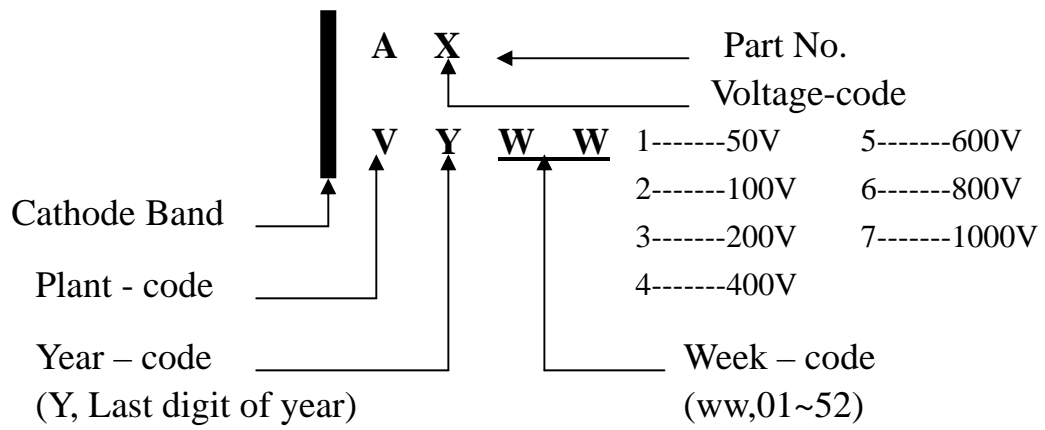
**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

## Marking Description



# PACKAGING OF DIODE AND BRIDGE RECTIFIERS

## REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | COMPONENT SPACE(mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|---------------------|-----------------|---------------|------------------|---------------|------------------|
| SMX     | -T           | 1,500       | ---                 | ---             | 180           | 390*205*310      | 48,000        | ---              |
| SMX     | -W           | 5,000       | ---                 | ---             | 330           | 355*360*350      | 80,000        | 15.20            |

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