

**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE 20 to 60 Volts CURRENT 1.0 Ampere**

**FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.015 gram

**MECHANICAL DATA**

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

**DISCONTINUED-**

"This series is replaced by the FM1XX series that meets to the same fit and function parameters and share the same solder pad layout. The FM1XX series is preferred for error-free vacuum pick-up and PCB assembly."

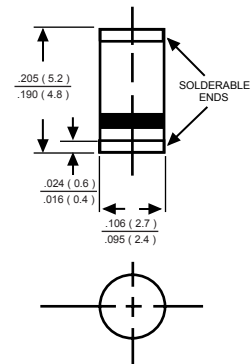
**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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%.

**MELF**



Dimensions in inches and (millimeters)

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

| RATINGS                                                                                           | SYMBOL    | SM120        | SM130 | SM140 | SM150 | SM160 | UNITS |
|---------------------------------------------------------------------------------------------------|-----------|--------------|-------|-------|-------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$ | 20           | 30    | 40    | 50    | 60    | Volts |
| Maximum RMS Voltage                                                                               | $V_{RMS}$ | 14           | 21    | 28    | 35    | 42    | Volts |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$  | 20           | 30    | 40    | 50    | 60    | Volts |
| Maximum Average Forward Rectified Current at Derating Case Temperature                            | $I_O$     | 1.0          |       |       |       |       | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 40           |       |       |       |       | Amps  |
| Typical Junction Capacitance (Note 2)                                                             | $C_J$     | 110          |       |       |       |       | pF    |
| Operating Temperature Range                                                                       | $T_J$     | 150          |       |       |       |       | °C    |
| Storage Temperature Range                                                                         | $T_{STG}$ | -55 to + 150 |       |       |       |       | °C    |

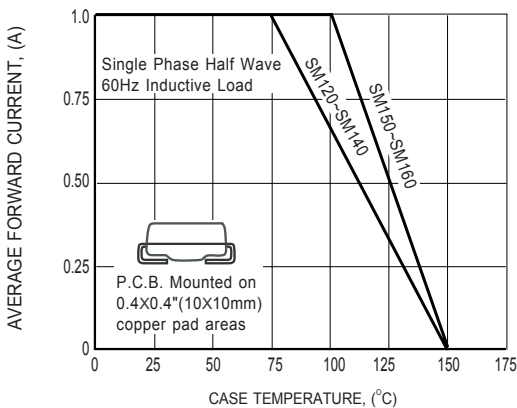
**ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)**

| CHARACTERISTICS                                                 |                         | SYMBOL         | SM120 | SM130 | SM140 | SM150 | SM160 | UNITS |
|-----------------------------------------------------------------|-------------------------|----------------|-------|-------|-------|-------|-------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC                |                         | V <sub>F</sub> | .55   |       |       | .70   |       | Volts |
| Maximum Average Reverse Current<br>at Rated DC Blocking Voltage | @T <sub>A</sub> = 25°C  | I <sub>R</sub> | 0.2   |       |       |       |       | mA    |
|                                                                 | @T <sub>A</sub> = 100°C |                | 2     |       |       |       |       | mA    |

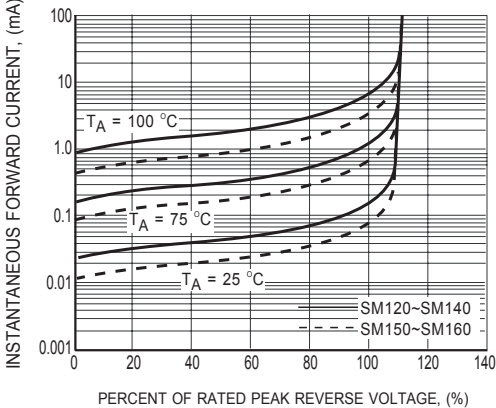
NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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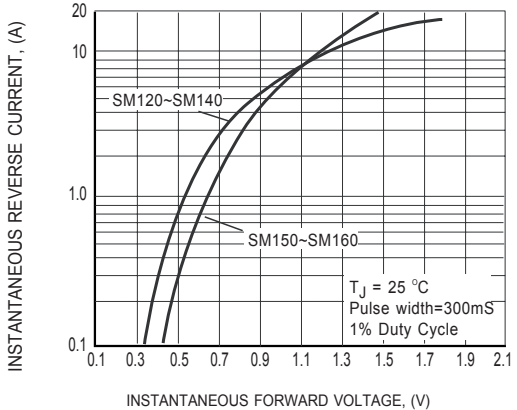
**RATING AND CHARACTERISTICS CURVES ( SM120 THRU SM160 )**



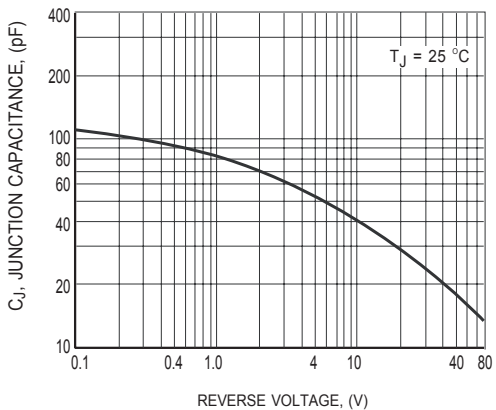
**FIG.1 TYPICAL FORWARD CURRENT  
DERATING CURVE**



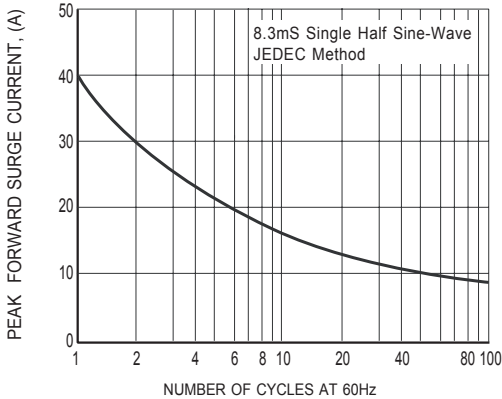
**FIG.2 TYPICAL REVERSE  
CHARACTERISTICS**



**FIG.3 TYPICAL INSTANTANEOUS FORWARD  
CHARACTERISTICS**

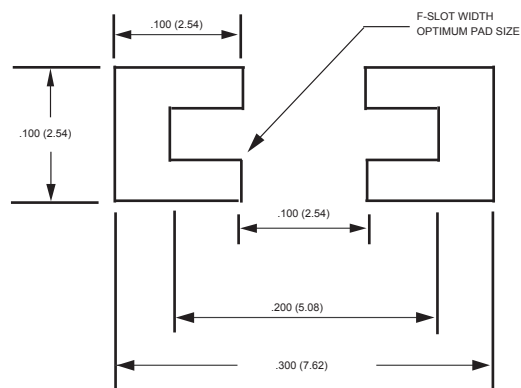


**FIG.4 TYPICAL JUNCTION CAPACITANCE**



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

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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