

**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE 20 to 200 Volts CURRENT 1.0 Ampere**

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* High current capability
- \* High switching capability
- \* High surge capability
- \* High reliability

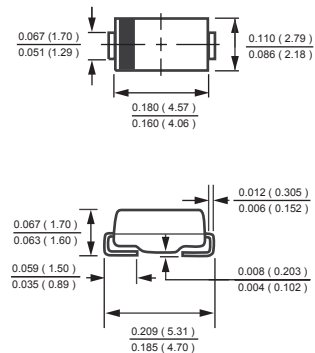
**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.09 gram

**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%.

**SMAL**



Dimensions in inches and (millimeters)

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

| RATINGS                                                                                           | SYMBOL          | FM120L       | FM130L | FM140L | FM150L | FM160L | FM180L | FM1100L | FM1150L | FM1200L | UNITS |
|---------------------------------------------------------------------------------------------------|-----------------|--------------|--------|--------|--------|--------|--------|---------|---------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$       | 20           | 30     | 40     | 50     | 60     | 80     | 100     | 150     | 200     | Volts |
| Maximum RMS Voltage                                                                               | $V_{RMS}$       | 14           | 21     | 28     | 35     | 42     | 56     | 70      | 105     | 140     | Volts |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$        | 20           | 30     | 40     | 50     | 60     | 80     | 100     | 150     | 200     | 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 Thermal Resistance (Note 1)                                                               | $R_{\theta JA}$ | 85           |        |        |        |        |        |         |         |         | °C/W  |
| Typical Thermal Resistance (Note 1)                                                               | $R_{\theta JL}$ | 25           |        |        |        |        |        |         |         |         | °C/W  |
| 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         | FM120L | FM130L | FM140L | FM150L | FM160L | FM180L | FM1100L | FM1150L | FM1200L | UNITS |
|-----------------------------------------------------------------|-------------------------|----------------|--------|--------|--------|--------|--------|--------|---------|---------|---------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC                |                         | V <sub>F</sub> | .55    |        |        | .70    |        |        | .85     |         |         | 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. Thermal Resistance : Mounted on PCB.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3. Also available in SMDL.  
4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

# RATING AND CHARACTERISTICS CURVES ( FM120L THRU FM1200L )

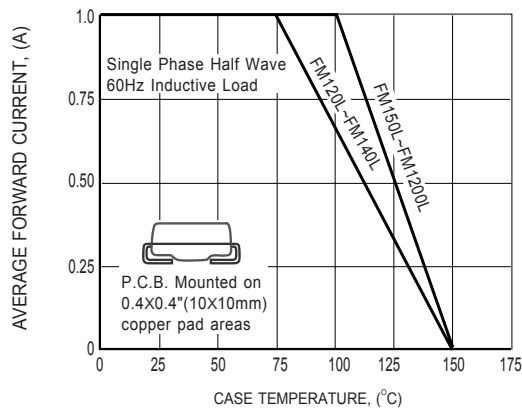


FIG.1 TYPICAL FORWARD CURRENT  
DERATING CURVE

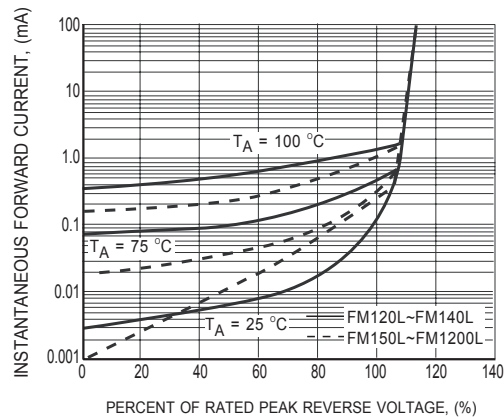


FIG.2 TYPICAL REVERSE  
CHARACTERISTICS

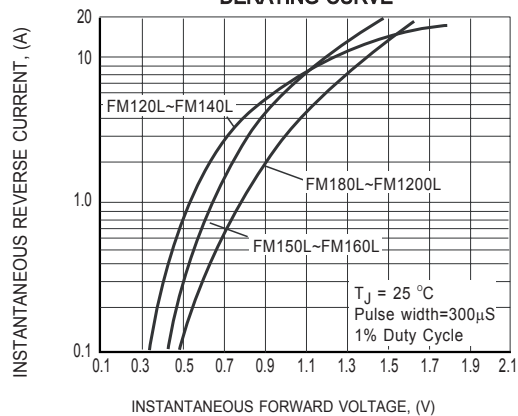


FIG.3 TYPICAL INSTANTANEOUS FORWARD  
CHARACTERISTICS

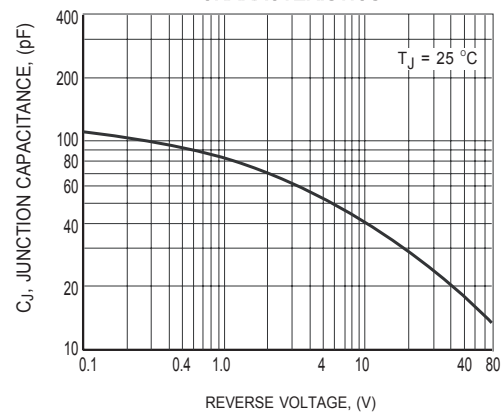


FIG.4 TYPICAL JUNCTION CAPACITANCE

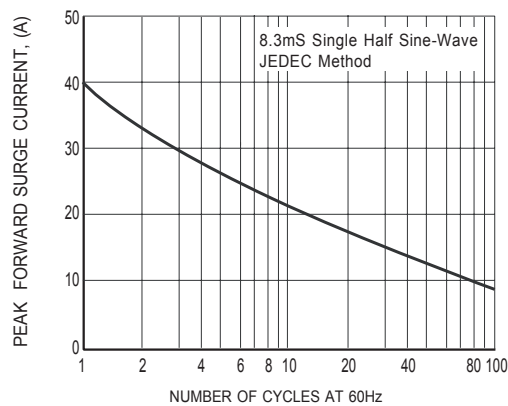
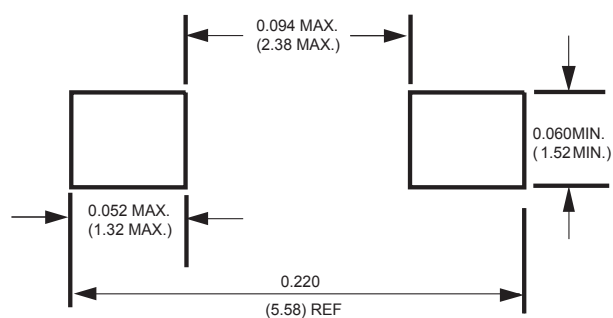


FIG.5 MAXIMUM NON-REPETITIVE FORWARD  
SURGE CURRENT

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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