

**SURFACE MOUNT  
GLASS PASSIVATED SILICON RECTIFIER  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 3.0 Ampere**

**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.24 gram

**MECHANICAL DATA**

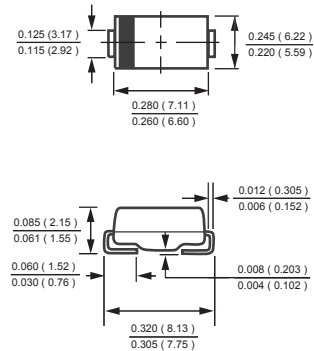
- \* Epoxy : Device has UL flammability classification 94V-0

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



SMCL



Dimensions in inches and (millimeters)

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

| RATINGS   | SYMBOL          | FM301L       | FM302L | FM303L | FM304L | FM305L | FM306L | FM307L | 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                                  | $I_O$           | 3.0          |        |        |        |        |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$       | 150          |        |        |        |        |        |        | Amps  |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JA}$ | 47           |        |        |        |        |        |        | °C/W  |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JL}$ | 13           |        |        |        |        |        |        | °C/W  |
| Typical Junction Capacitance (Note 2)   | $C_J$           | 30           |        |        |        |        |        |        | 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                      | FM301L | FM302L | FM303L | FM304L | FM305L | FM306L | FM307L | UNITS         |
|--|-----------------------------|--------|--------|--------|--------|--------|--------|--------|---------------|
| Maximum Instantaneous Forward Voltage at 3.0A DC             | $V_F$                       | 1.1    |        |        |        |        |        |        | Volts         |
| Maximum Average Reverse Current at Rated DC Blocking Voltage | @ $T_A = 25^\circ\text{C}$  | 2.0    |        |        |        |        |        |        | $\mu\text{A}$ |
|  | @ $T_A = 100^\circ\text{C}$ | 125    |        |        |        |        |        |        | $\mu\text{A}$ |

- 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 ( FM301L THRU FM307L )

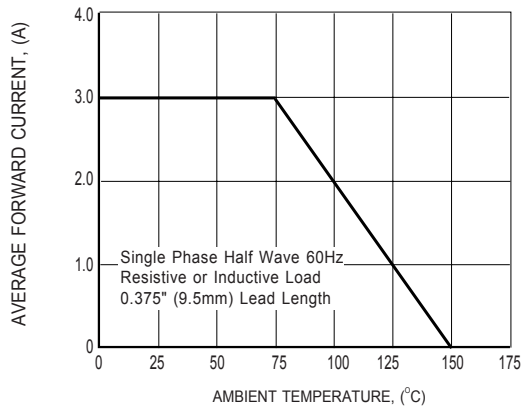


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

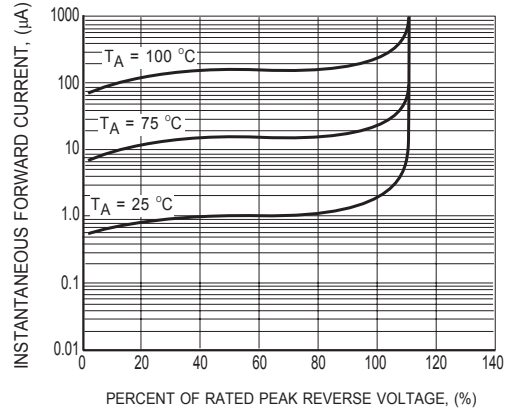


FIG.2 TYPICAL REVERSE CHARACTERISTICS

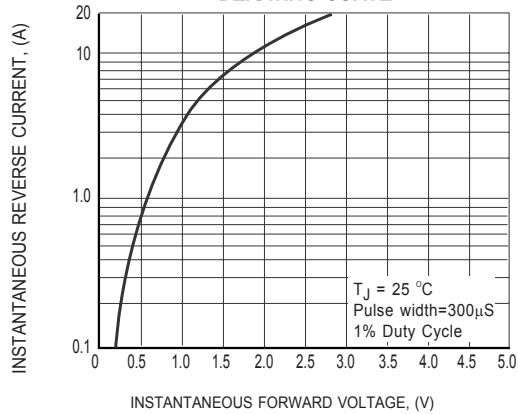


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

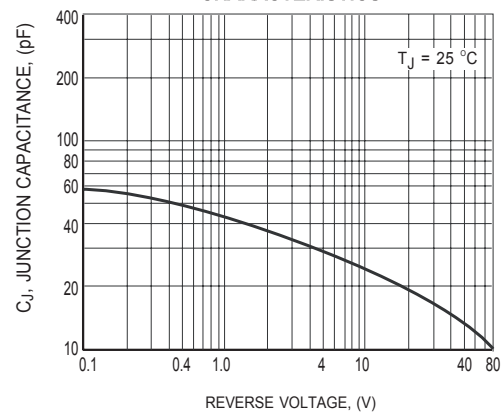


FIG.4 TYPICAL JUNCTION CAPACITANCE

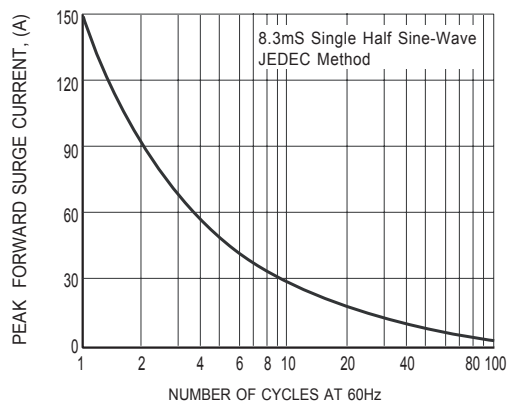
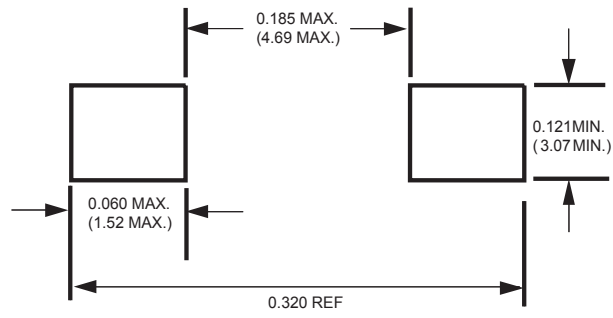


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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