

**SURFACE MOUNT GLASS PASSIVATED  
FAST RECOVERY 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**

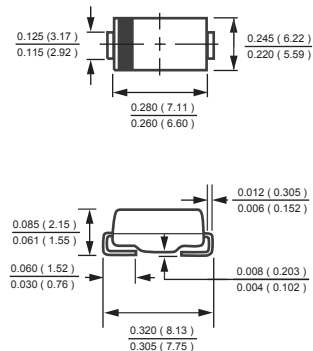
- \* Epoxy : Device has UL flammability classification 94V-0

**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**



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

| RATINGS                                                                                              | SYMBOL                            | FFM301L      | FFM302L | FFM303L | FFM304L | FFM305L | FFM306L | FFM307L | UNITS |
|------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                               | V <sub>RRM</sub>                  | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts |
| Maximum RMS Voltage                                                                                  | V <sub>RMS</sub>                  | 35           | 70      | 140     | 280     | 420     | 560     | 700     | Volts |
| Maximum DC Blocking Voltage                                                                          | V <sub>DC</sub>                   | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts |
| Maximum Average Forward Rectified Current<br>at T <sub>A</sub> = 55°C                                | I <sub>O</sub>                    | 3.0          |         |         |         |         |         |         | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                  | 200          |         |         |         |         |         |         | Amps  |
| Typical Thermal Resistance (Note 4)                                                                  | R <sub>θJA</sub>                  | 50           |         |         |         |         |         |         | °C/W  |
|                                                                                                      | R <sub>θJL</sub>                  | 15           |         |         |         |         |         |         |       |
| Typical Junction Capacitance (Note 2)                                                                | C <sub>J</sub>                    | 15           |         |         |         |         |         |         | pF    |
| Operating and Storage Temperature Range                                                              | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |         |         |         |         |         |         | °C    |

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

| CHARACTERISTICS                                            |                         | SYMBOL          | FFM301L | FFM302L | FFM303L | FFM304L | FFM305L | FFM306L | FFM307L | UNITS |
|------------------------------------------------------------|-------------------------|-----------------|---------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Instantaneous Forward Voltage at 3.0ADC            |                         | V <sub>F</sub>  | 1.30    |         |         |         |         |         |         | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage | @T <sub>A</sub> = 25°C  | I <sub>R</sub>  | 2.0     |         |         |         |         |         |         | μAmps |
|                                                            | @T <sub>A</sub> = 100°C |                 | 100     |         |         |         |         |         |         |       |
| Maximum Reverse Recovery Time (Note 1)                     |                         | t <sub>rr</sub> | 150     |         |         |         | 250     | 500     |         | nSec  |

- NOTES : 1. Reverse Recovery Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = -1.0A, I<sub>RR</sub> = -0.25A  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts  
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
4. Thermal Resistance : Mounted on PCB.

RATING AND CHARACTERISTICS CURVES ( FFFM301L THRU FFM307L )



FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

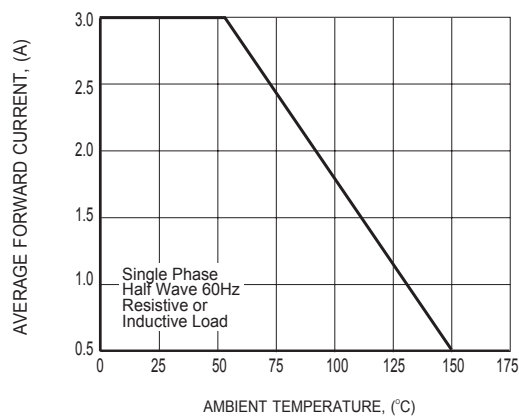


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

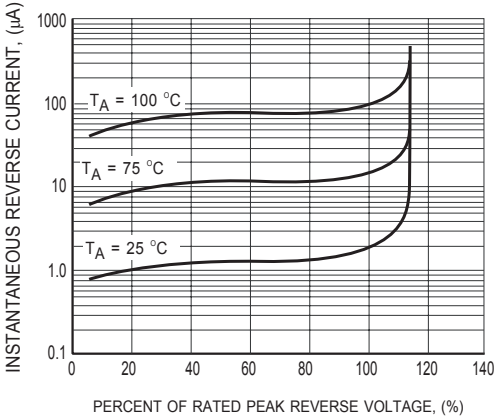


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES ( FFM301L THRU FFM307L )

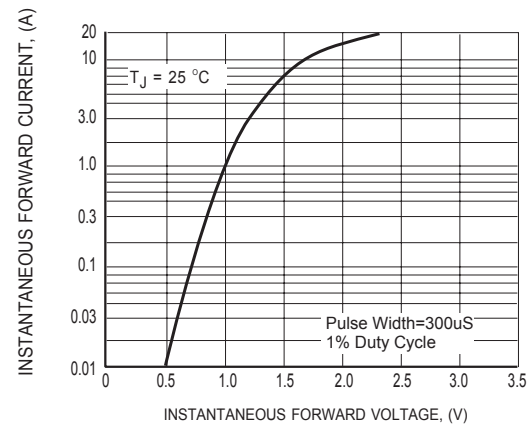


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

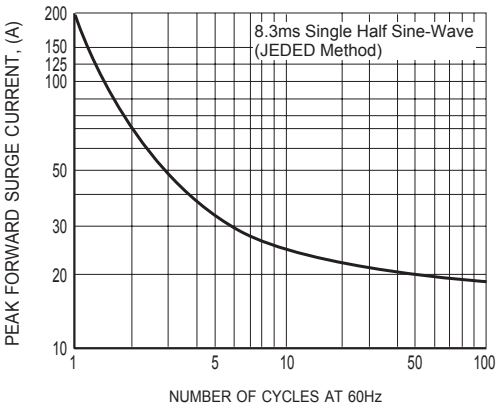


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

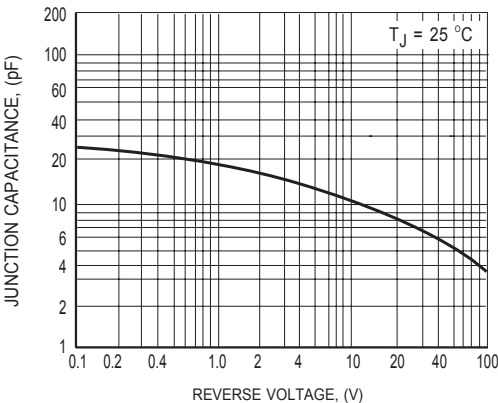
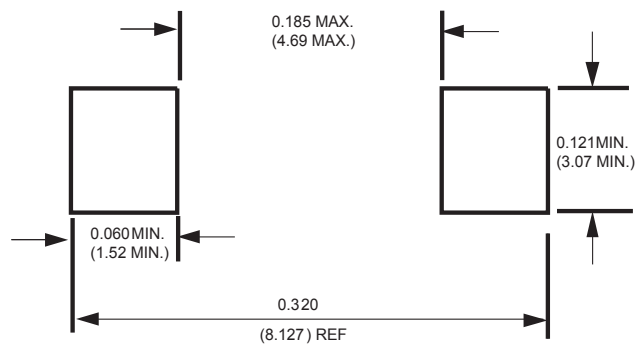


FIG.6 TYPICAL JUNCTION CAPACITANCE

## Mounting Pad Layout



Dimensions in inches and (millimeters)

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