

# UFM11PL~UFM17PL

## SURFACE MOUNT ULTRAFAST RECTIFIER

**VOLTAGE** 50 to 1000 Volt **CURRENT** 1 Ampere

SOD-123FL

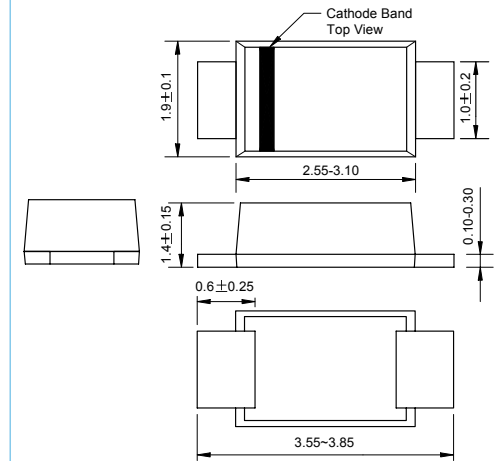
Unit:mm

### FEATURES

- High efficiency,
- High current capability
- High reliability
- Lead free in compliance with EU RoHS

### MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| PARAMETER                                                                                                 | SYMBOL             | UFM11PL      | UFM12PL | UFM13PL | UFM14PL | UFM15PL | UFM16PL | UFM17PL | UNITS  |
|-----------------------------------------------------------------------------------------------------------|--------------------|--------------|---------|---------|---------|---------|---------|---------|--------|
| Maximum Recurrent Peak Reverse Voltage                                                                    | V <sub>RRM</sub>   | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | V      |
| Maximum RMS Voltage                                                                                       | V <sub>RMS</sub>   | 35           | 70      | 210     | 280     | 420     | 560     | 7000    | V      |
| Maximum DC Blocking Voltage                                                                               | V <sub>DC</sub>    | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | V      |
| Maximum Average Forward Current (see FIG.1)                                                               | I <sub>F(AV)</sub> | 1            |         |         |         |         |         |         | A      |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load                       | I <sub>FSM</sub>   | 30           |         |         |         |         |         |         | A      |
| Maximum Forward Voltage at 1 A                                                                            | V <sub>F</sub>     | 1.0          |         |         | 1.30    | 1.70    |         |         | V      |
| Maximum DC Reverse Current at T <sub>A</sub> = 25 °C<br>Rated DC Blocking Voltage T <sub>A</sub> = 100 °C | I <sub>R</sub>     | 10<br>100    |         |         |         |         |         |         | μA     |
| Maximum reverse recovery time (Note1)                                                                     | t <sub>rr</sub>    | 35           |         |         | 50      | 75      |         |         | pF     |
| Typical Junction Capacitance (Note2)                                                                      | C <sub>J</sub>     | 20           |         |         |         |         |         |         | pF     |
| Thermal Resistance (Note3)                                                                                | R <sub>θJA</sub>   | 180          |         |         |         |         |         |         | °C / W |
| Operating Junction Temperature Range                                                                      | T <sub>J</sub>     | -55 to + 150 |         |         |         |         |         |         | °C     |
| Storage Temperature Range                                                                                 | T <sub>STG</sub>   | -55 to + 150 |         |         |         |         |         |         | °C     |

### NOTES:

1. Reverse Recovery Test Conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_r = 0.25$
2. Measured at 1.0MHz and applied reverse voltage of 4.0 volt
3. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.

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## RATING AND CHARACTERISTIC CURVES

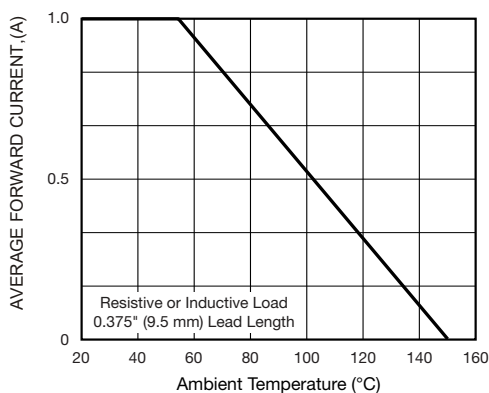


Fig. 1 Forward Current Derating Curve

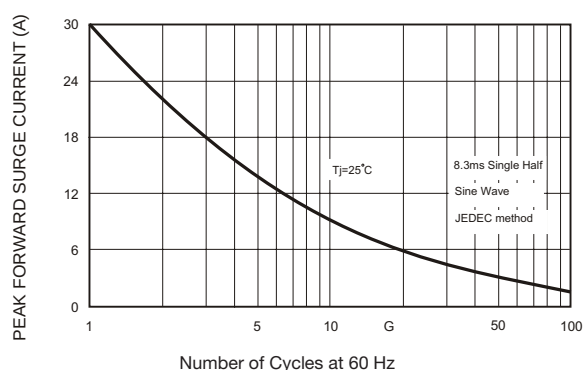


Fig. 2 Surge Current Derating Curve

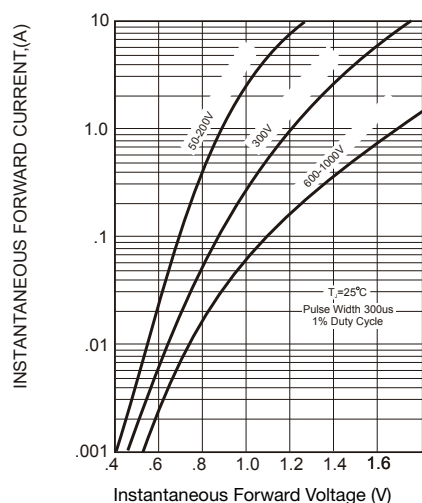


Fig. 3 Typical Forward Characteristics

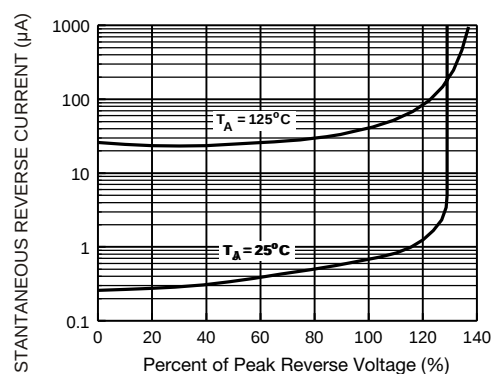


Fig. 4 Typical Reverse Characteristics

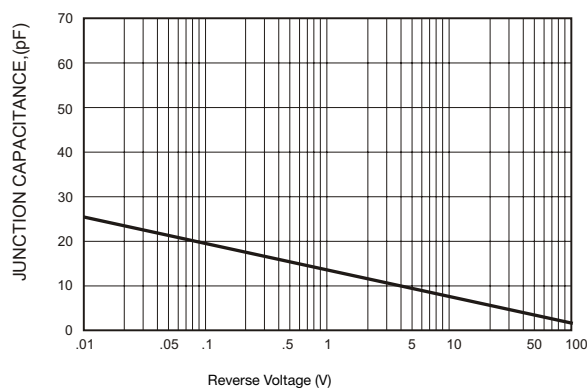
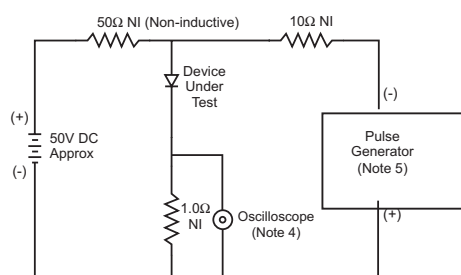
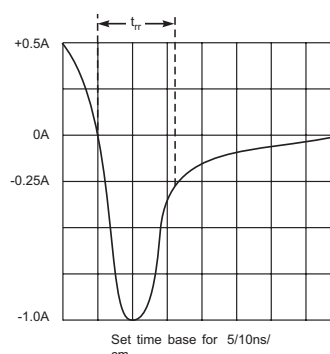


Fig. 5 Typical Junction Capacitance



- Notes:  
 4. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.  
 5. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .

Fig. 6 Reverse Recovery Time Characteristic and Test Circuit



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### ORDER INFORMATION

- Packing information

| Part Number     | Case      | Reel Size | QUANTITY |
|-----------------|-----------|-----------|----------|
| UFM11PL~UFM17PL | SOD-123FL | 13 Inch   | 2500     |