

**SURFACE MOUNT GLASS PASSIVATED  
SUPER FAST SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 200 Volts CURRENT 3.0 Amperes**

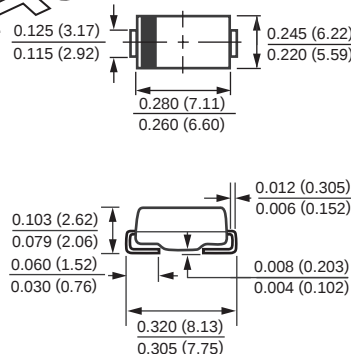
**FEATURES**

- \* Glass passivated device
- \* For surface mounted applications
- \* Ultrafast recovery times for high efficiency
- \* Low forward voltage, low power loss
- \* Low leakage current

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.24 grams

**DO-214AB**



Dimensions in inches and (millimeters)

**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%.

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

| RATINGS                                                                                                           | SYMBOL   | UFM301       | UFM302 | UFM303 | UFM304 | UNITS |
|-------------------------------------------------------------------------------------------------------------------|----------|--------------|--------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                            | VRRM     | 50           | 100    | 150    | 200    | Volts |
| Maximum RMS Volts                                                                                                 | VRMS     | 35           | 70     | 105    | 140    | Volts |
| Maximum DC Blocking Voltage                                                                                       | VDC      | 50           | 100    | 150    | 200    | Volts |
| Maximum Average Forward Current<br>at TA = 55°C                                                                   | Io       | 3.0          |        |        |        | Amps  |
| Peak Forward Surge Current IFM (surge): 8.3 ms single half<br>sine-wave superimposed on rated load (JEDEC method) | IFSM     | 100          |        |        |        | Amps  |
| Typical Junction Capacitance (Note 2)                                                                             | Cj       | 45           |        |        |        | pF    |
| Operating and Storage Temperature Range                                                                           | TJ, TSTG | -55 to + 150 |        |        |        | °C    |

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

| CHARACTERISTICS                        |                        | SYMBOL          | UFM301 | UFM302 | UFM303 | UFM304 | UNITS |
|----------------------------------------|------------------------|-----------------|--------|--------|--------|--------|-------|
| Maximum Forward Voltage at 3.0A DC     |                        | V <sub>F</sub>  | 0.9    |        |        |        | Volts |
| Maximum DC Reverse Current             | @T <sub>A</sub> = 25°C | I <sub>R</sub>  | 10     |        |        |        | uAmps |
| at Rated DC Blocking Voltage           | @T <sub>A</sub> =100°C |                 | 500    |        |        |        |       |
| Maximum Reverse Recovery Time (Note 1) |                        | t <sub>rr</sub> | 20     |        |        |        | nSec  |

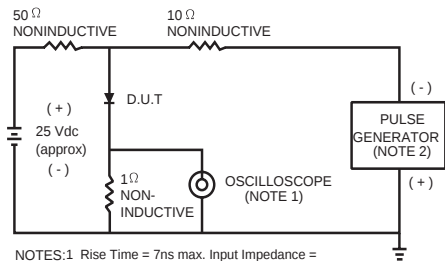
NOTES : 1. Test Conditions: IF=0.5A, IR=-1.0A, IRR=-0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2002-4

# RATING AND CHARACTERISTIC CURVES ( UFM301 THRU UFM304 )

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm, 22pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

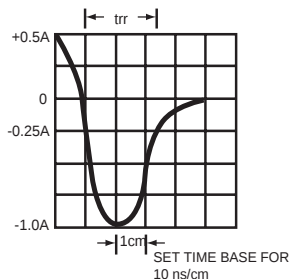


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

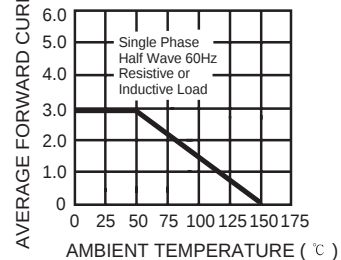


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

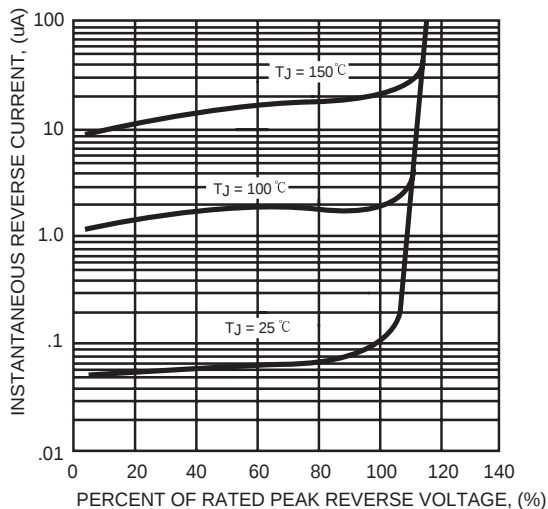


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

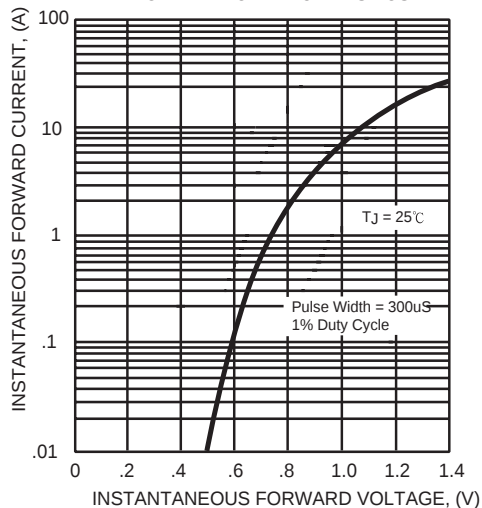


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

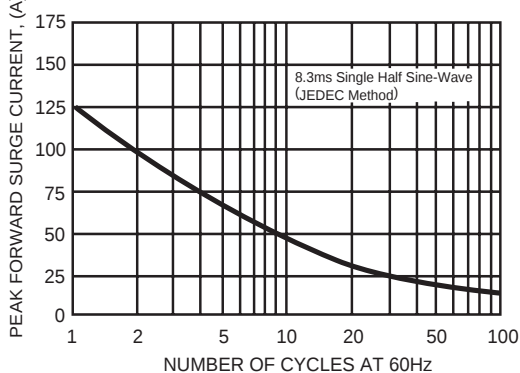
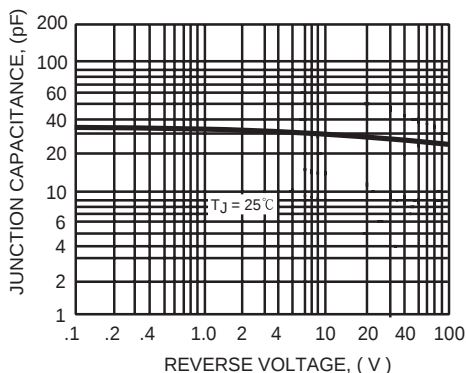
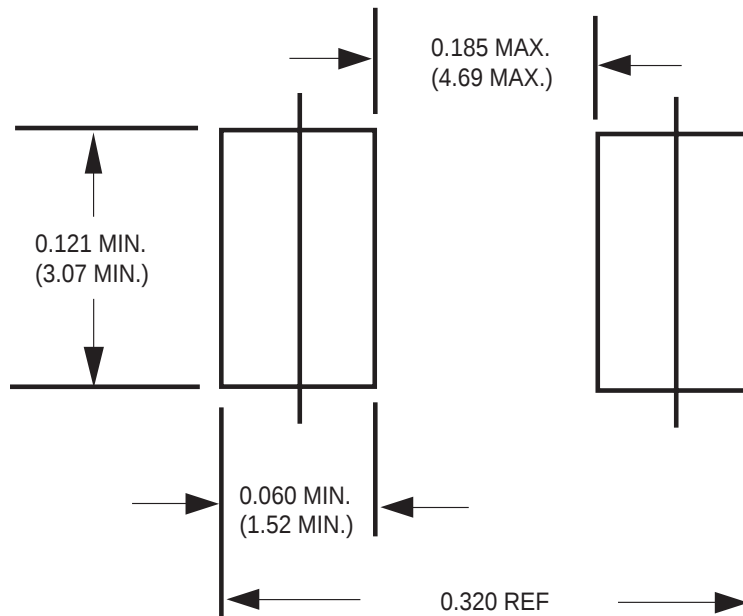


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



## Mounting Pad Layout



Dimensions in inches and (millimeters)