

## ULTRA FAST RECTIFIERS

REVERSE VOLTAGE - **50 to 1000** Volts  
FORWARD CURRENT - **3.0** Amperes

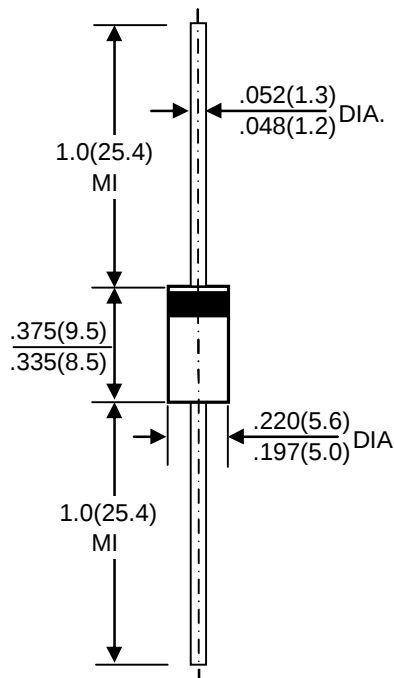
### FEATURES

- Low cost
- Diffused junction
- Ultra fast switching for high efficiency
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- The plastic material carries UL recognition 94V-0

### MECHANICAL DATA

- Case: JEDEC DO-27 molded plastic
- Polarity: Color band denotes cathode
- Weight: 0.04ounces , 1.1grams
- Mounting position: Any

### DO- 27



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| CHARACTERISTICS                                                                                               | SYMBOL           | UF3001      | UF3002 | UF3003 | UF3004 | UF3005 | UF3006 | UF3007 | UF3008 | UNIT |
|---------------------------------------------------------------------------------------------------------------|------------------|-------------|--------|--------|--------|--------|--------|--------|--------|------|
| Maximum Recurrent Peak Reverse Voltage                                                                        | V <sub>RRM</sub> | 50          | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | V    |
| Maximum RMS Voltage                                                                                           | V <sub>RMS</sub> | 35          | 70     | 140    | 210    | 280    | 420    | 560    | 700    | V    |
| Maximum DC Blocking Voltage                                                                                   | V <sub>DC</sub>  | 50          | 100    | 200    | 300    | 400    | 600    | 800    | 1000   | V    |
| Maximum Average Forward Rectified Current<br>@T <sub>A</sub> =55 °C                                           | I(AV)            | 3.0         |        |        |        |        |        |        |        | A    |
| Peak Forward Surage Current<br>8.3ms Single Half Sine-Wave<br>Super Imposed on Rated Load(JEDEC Method)       | I <sub>FSM</sub> | 150         |        |        |        |        |        |        |        | A    |
| Peak Forward Voltage at 3.0A DC(Note1)                                                                        | V <sub>F</sub>   | 1.0         |        |        |        | 1.3    | 1.7    |        |        | V    |
| Maximum DC Reverse Current<br>@T <sub>J</sub> =25°C<br>at Rated DC Blocking Voltage<br>@T <sub>J</sub> =100°C | I <sub>R</sub>   | 5.0<br>100  |        |        |        |        |        |        |        | uA   |
| Maximum Reverse Recovery Time(Note 1)                                                                         | T <sub>RR</sub>  | 50          |        |        |        |        | 75     |        |        | nS   |
| Typical Junction Capacitance (Note2)                                                                          | C <sub>J</sub>   | 50          |        |        |        |        | 30     |        |        | pF   |
| Typical Thermal Resistance (Note3)                                                                            | RθJA             | 20          |        |        |        |        |        |        |        | °C/W |
| Operating Temperature Range                                                                                   | T <sub>J</sub>   | -50 to +125 |        |        |        |        |        |        |        | °C   |
| Storage Temperature Range                                                                                     | T <sub>STG</sub> | -50 to +150 |        |        |        |        |        |        |        | °C   |

NOTES: 1.Measured with I<sub>F</sub>=0.5A, I<sub>R</sub>=1A , I<sub>RR</sub>=0.25A

2.Measured at 1.0 MHz and applied reverse voltage of 4.0V DC

3.Thermal resistance junction to ambient

FIG. 1 – FORWARD CURRENT DERATING CURVE

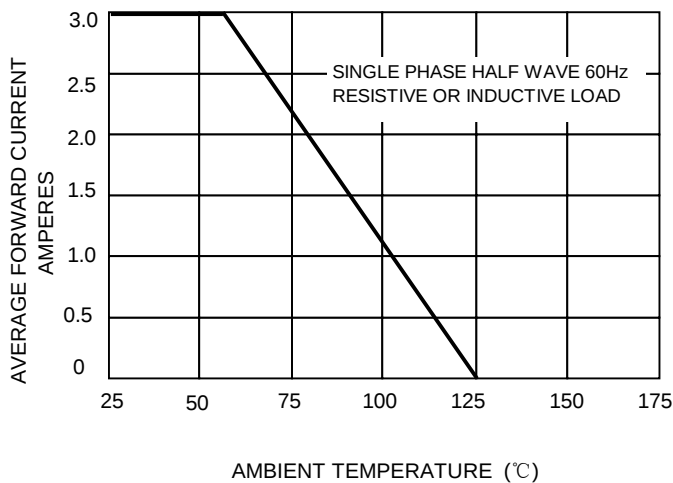


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

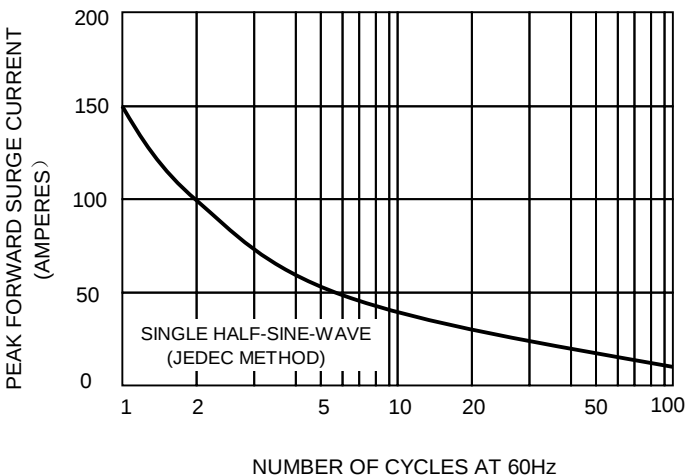


FIG.3 – TYPICAL JUNCTION CAPACITANCE

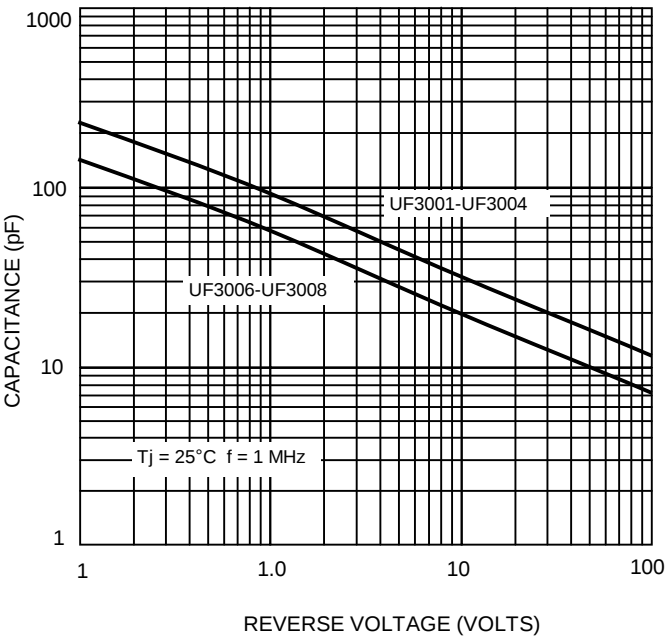


FIG.4-TYPICAL FORWARD CHARACTERISTICS

