



## FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.34 grams

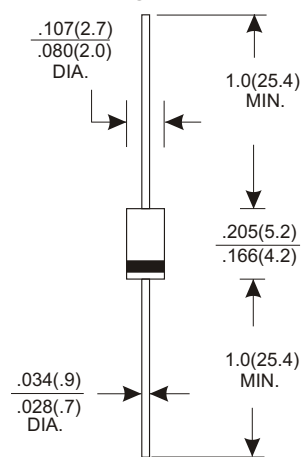
## VOLTAGE RANGE

50 to 1000 Volts

## CURRENT

1.0 Ampere

DO-41



Dimensions in inches and (millimeters)

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%.

| Parameter                                                                                              | Symbols                         | UF4001      | UF4002 | UF4003 | UF4004 | UF4005 | UF4006 | UF4007 | 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     | 140    | 280    | 420    | 560    | 700    | V     |
| Maximum DC Blocking Voltage                                                                            | V <sub>DC</sub>                 | 50          | 100    | 200    | 400    | 600    | 800    | 1000   | V     |
| Maximum Average Forward Rectified Current 0.375"(9.5mm) Lead Length at T <sub>A</sub> = 55 °C          | I <sub>(AV)</sub>               | 1           |        |        |        |        |        |        | A     |
| Peak Forward Surge Current, 8.3 ms Single Half-sine -wave Superimposed on Rated Load (JEDEC Method)    | I <sub>FSM</sub>                | 30          |        |        |        |        |        |        | A     |
| Maximum Forward Voltage at 1 A DC                                                                      | V <sub>F</sub>                  | 1           |        |        | 1.3    | 1.7    |        |        | V     |
| Maximum Reverse Current T <sub>A</sub> = 25 °C<br>at Rated DC Blocking Voltage T <sub>A</sub> = 100 °C | I <sub>R</sub>                  | 5<br>500    |        |        |        |        |        |        | μA    |
| Typical Junction Capacitance <sup>1)</sup>                                                             | C <sub>J</sub>                  | 17          |        |        |        |        |        |        | pF    |
| Typical Thermal Resistance <sup>2)</sup>                                                               | R <sub>θJA</sub>                | 60          |        |        |        |        |        |        | °C/W  |
| Maximum Reverse Recovery Time <sup>3)</sup>                                                            | t <sub>rr</sub>                 | 50          |        |        |        | 75     |        |        | ns    |
| Operating and Storage Temperature Range                                                                | T <sub>J</sub> , T <sub>S</sub> | -55 to +150 |        |        |        |        |        |        | °C    |

<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4 V DC.

<sup>2)</sup> Thermal resistance junction to ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B mounted.

<sup>3)</sup> Reverse recovery test conditions:  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

## RATING AND CHARACTERISTIC CURVES (UF4001 THRU UF4007)

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

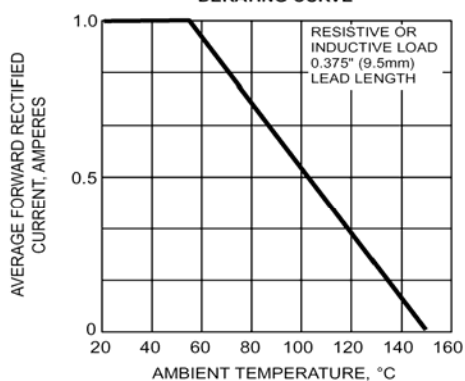


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

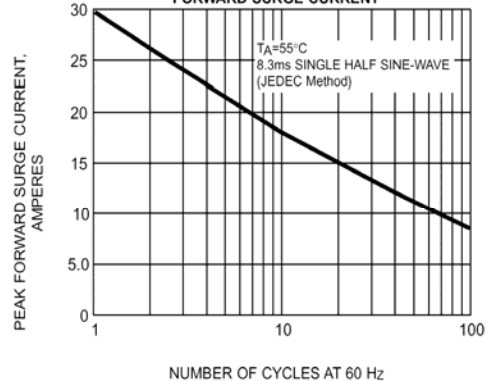


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

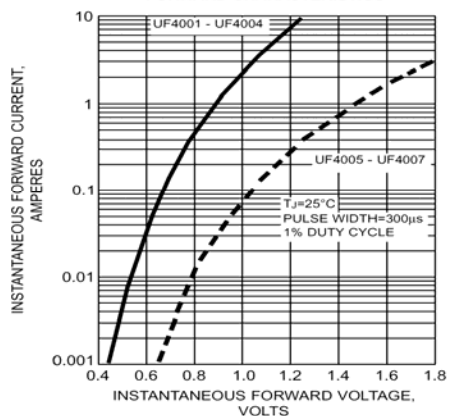


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

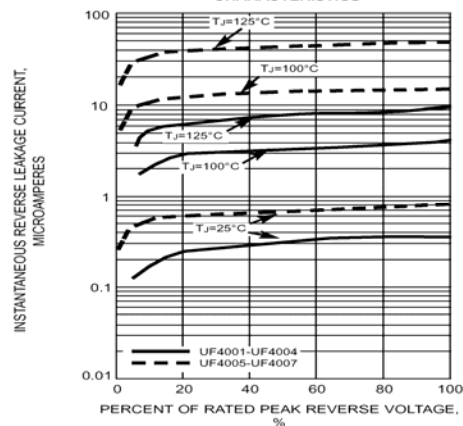


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

