



# UF4001 THRU UF4007

## ULTRAFAST RECOVERY RECTIFIER

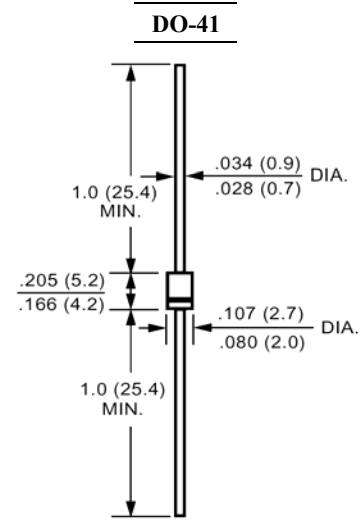
**REVERSE VOLTAGE:** 50 to 1000 VOLTS  
**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics
- Suffix "H" indicates Halogen-free parts, ex. UF4001H

### MECHANICAL DATA

Case : Molded plastic, DO-41  
 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



Dimensions in inchs and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Parameter   | Symbols         | UF4001      | UF4002 | UF4003 | UF4004 | UF4005 | UF4006 | UF4007 | Units |
|---|-----------------|-------------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Recerrent Peak Reverse Voltage  | $V_{RRM}$       | 50          | 100    | 200    | 400    | 600    | 800    | 1000   | Volts |
| Maximum RMS Voltage   | $V_{RMS}$       | 35          | 70     | 140    | 280    | 420    | 560    | 700    | Volts |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50          | 100    | 200    | 400    | 600    | 800    | 1000   | Volts |
| Maximum Average Forward Rectified Current<br>.375"(9.5mm) Lead Length at $T_A=55^\circ C$               | $I_{(AV)}$      | 1.0         |        |        |        |        |        |        | Amp   |
| Peak Forward Surge Current,<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method) | $I_{FSM}$       | 30.0        |        |        |        |        |        |        | Amp   |
| Maximum Forward Voltage at 1.0A DC and 25°C   | $V_F$           | 1.0         |        |        |        | 1.7    |        |        | Volts |
| Maximum Reverse Current at $T_A=25^\circ C$<br>at Rated DC Blocking Voltage $T_A=100^\circ C$           | $I_R$           | 5.0         |        |        |        | 100    |        |        | uAmp  |
| Typical Junction Capacitance (Note 1)   | $C_J$           | 17          |        |        |        |        |        |        | pF    |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JA}$ | 60.0        |        |        |        |        |        |        | °C/W  |
| Maximum Reverse Recovery Time (Note 3)  | $T_{RR}$        | 50          |        |        |        | 75     |        |        | nS    |
| Operating and Storage Temperature Range   | $T_J, T_{stg}$  | -55 to +150 |        |        |        |        |        |        | °C    |

#### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal Resistance Junction to Ambient and form junction to lead at 0.375"(9.5mm) lead length P.C.B. Mounted.
- 3- Reverse Recovery Test Conditions:  $I_F=.5A$ ,  $I_R=1A$ ,  $I_{RR}=.25A$ .



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### RATINGS AND CHARACTERISTIC CURVES

FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

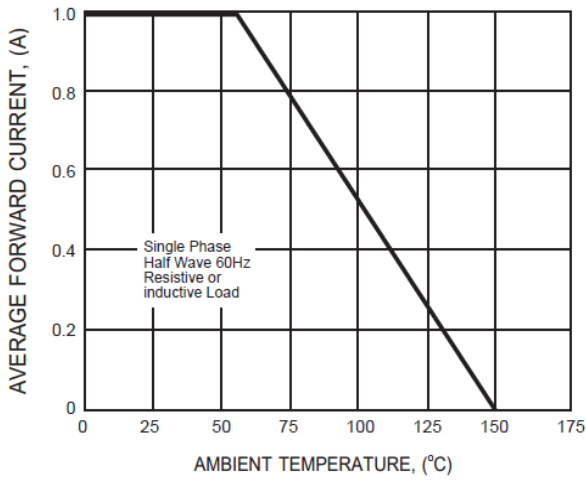


FIG.2 TYPICAL REVERSE CHARACTERISTICS

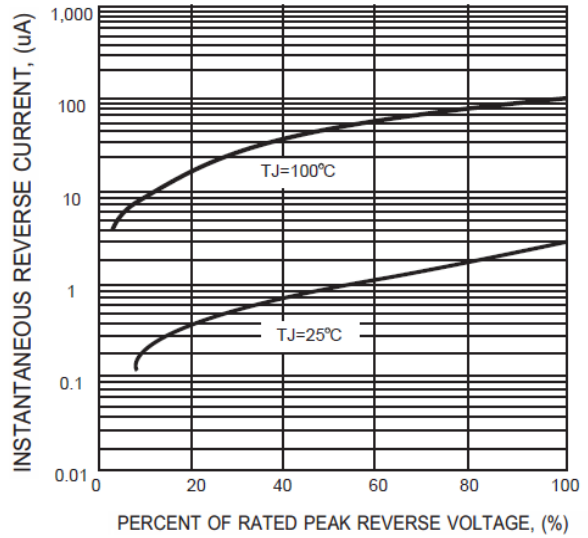


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

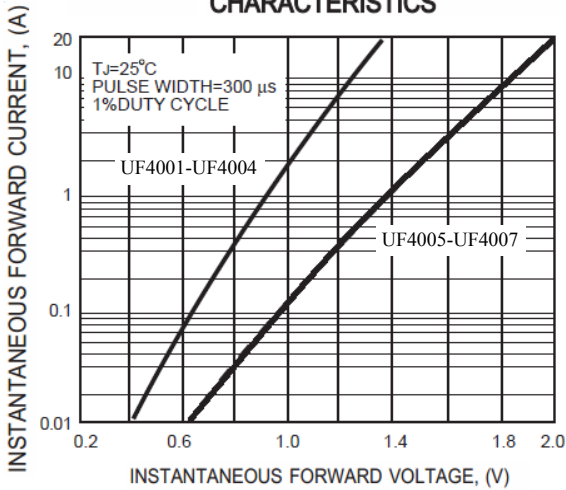


FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

