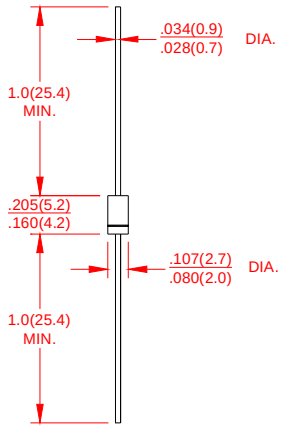
ULTRA FAST RECTIFIER

# UF4001 THRU UF4007

**VOLTAGE RANGE** **50 to 1000 Volts**
**CURRENT** **1.0Ampere**

DO-41




Dimensions in inches and (millimeters)

## FEATURES

- Low coat construction
- Fast switching for high efficency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
  260℃/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

## MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012ounce, 0.33 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25$^{O}$C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

| | | SYMBOLS | UF 4001 | UF 4002 | UF 4003 | UF 4004 | UF 4005 | UF 4006 | UF 4007 | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 850 | 700 | Volts |
| Maximum DC Blocking Voltage | | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current 0.375”(9.5mm) lead length at $T_A$= 55℃ | | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method) | | $I_{FSM}$ | 30 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage @ 1.0A | | $V_F$ | 1.0 | | | | 1.7 | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A$ = 25℃ | $I_R$ | 10 | | | | | | | μA |
| | $T_A$ = 125℃ | | 50 | | | | | | | |
| Maximum Reverse Recovery Time $T_J$= 25℃(NOTE 1) | | trr | 50 | | | | 75 | | | ns |
| Typical Thermal Resistance (NOTE 2) | | $C_J$ | 15 | | | | | | | PF |
| Typical Thermal Resistance(NOTE 3) | | $R_{\theta JA}$ | 60 | | | | | | | ℃/W |
| Operating Junction Temperature Range | | $T_J$ ,$T_{STG}$ | (-55 to +150) | | | | | | | ℃ |

**Notes:**

1 Test Condition:IF=0.5A,IR=1.0A,IRR=0.25A

2. Measured at 1.0 MHz and applied reverse of 4.0 volts.

3 Thermal resistance from junction to ambient with .375”(9.5mm)lead length, P.C.B. mounted. .

ULTRA FAST RECTIFIER

| UF4001 THRU UF4007 | VOLTAGE RANGE | 50 to 1000 Volts |
|---|---|---|
| | CURRENT | 1.0Ampere |

# RATING AND CHRACTERISTIC CURVES UF4001 THRU UF4007

FIG.1-TYPICAL FORWARD CURRENT
DERATING CURVE

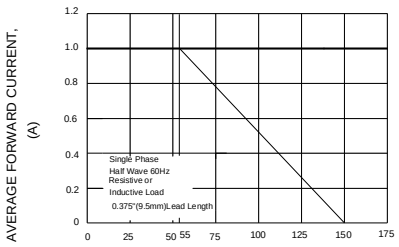



FIG.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT

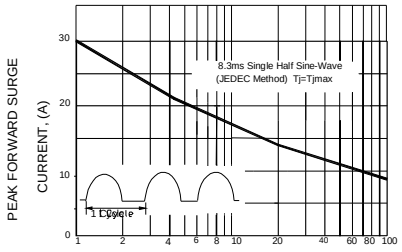



FIG.3-TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

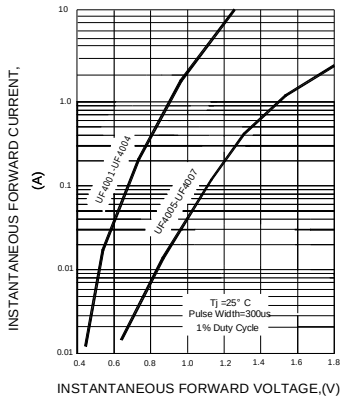



FIG.4-TYPICAL REVERSE
CHARACTERISTICS

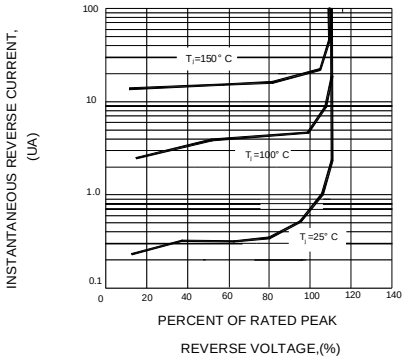



FIG.5-TYPICAL JUNCTION CAPACITANCE

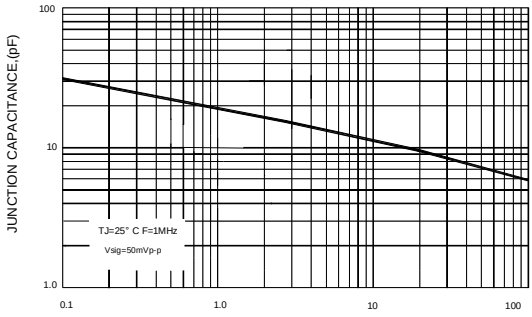
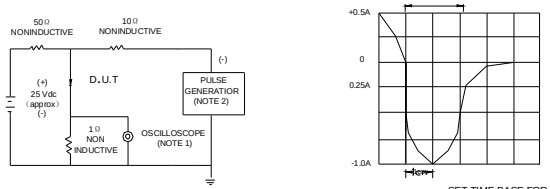



**FIG.6-TEST CIRCUIT DIAGRAM AND
REVERSE REXOVERY TIME CHARACTERISTIC**




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

SET TIME BASE FOR
50 /100NS /cm