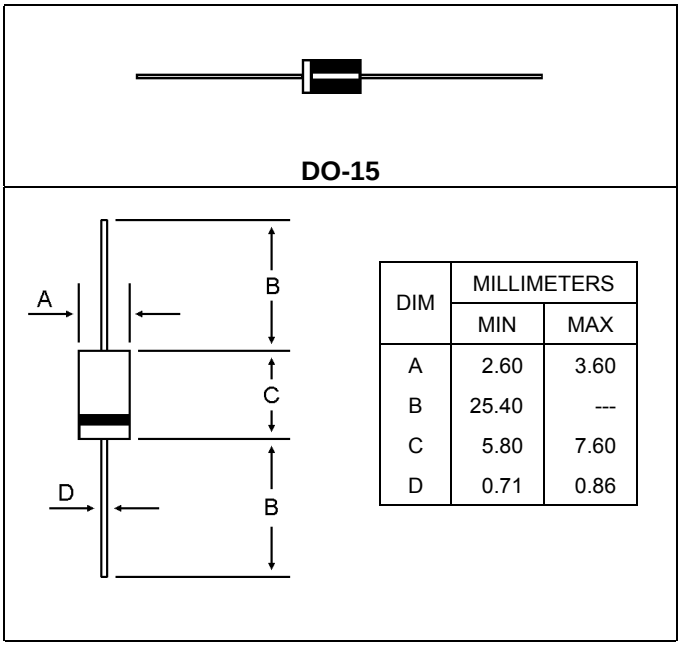
# MOSPEC

# UF2001 Thru UF2007

**ULTRA-FAST GLASS PASSIVATED RECTIFIER**
**VOLTAGE RANGE 50 TO 1000 Volts Current 2.0 Ampere**

**FEATURES**
- ＊Ultra-fast recovery time for high efficiency
- ＊Glass Passivated Chip junction
- ＊Excellent high temperature switching
- ＊Low reverse leakage current
- ＊Low forward voltage drop
- ＊High current capability

**MECHANICAL DATA**
- ＊Case：JEDEC DO-15
- ＊Epoxy: UL94V-O rate flame retardant
- ＊Terminals：Solderable Per MIL-STD-202 Method 208
- ＊Polarity：Color band denotes cathode end
- ＊Mounting position: Any
- ＊Weight：0.015 ounces,0.4 grams




| DIM | MILLIMETERS | |
|---|---|---|
| | MIN | MAX |
| A | 2.60 | 3.60 |
| B | 25.40 | --- |
| C | 5.80 | 7.60 |
| D | 0.71 | 0.86 |

## MAXIMUM RATINGS AND ELECTRICAL CHARATERISTICS

* Rating at 25℃ ambient temperature unless otherwise specified
* Single phase-half wave. 60Hz, resistive or inductive load.
* For capacitive load derate current dh 20 %

| Characteristic | Symbol | UF2001 | UF2002 | UF2003 | UF2004 | UF2005 | UF2006 | UF2007 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectifier Forward Current<br>Per Leg $T_C$=125℃ | $I_{F(AV)}$ | 2.0 | | | | | | | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-ware, single phase, 60Hz) | $I_{FSM}$ | 60 | | | | | | | A |
| Maximum Instantaneous Forward Voltage<br>( $I_F$ =1.0 Amp $T_C$ = 25℃) | $V_F$ | 1.0 | | | 1.3 | 1.7 | | | V |
| Maximum Instantaneous Reverse Current<br>( Rated DC Voltage, $T_C$ = 25℃)<br>( Rated DC Voltage, $T_C$ = 125℃) | $I_R$ | 5.0<br>100 | | | | | | | uA |
| Reverse Recovery Time<br>( $I_F$ = 0.5 A, $I_R$ =1.0 , $I_{rr}$ =0.25 A ) | $T_{rr}$ | 50 | | | | 75 | | | ns |
| Typical Junction Capacitance<br>(Reverse Voltage of 4 volts & f=1 MHz) | $C_j$ | 50 | | | | 30 | | | pF |
| Typical Thermal Resistance | $R_{\theta jA}$ | 25 | | | | | | | ℃/W |
| Operating and Storage Junction Temperature Range | $T_J$ , $T_{stg}$ | -65 to +150 | | | | | | | ℃ |

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FIG-1 TYPICAL FORWARD CHARACTERISITICS

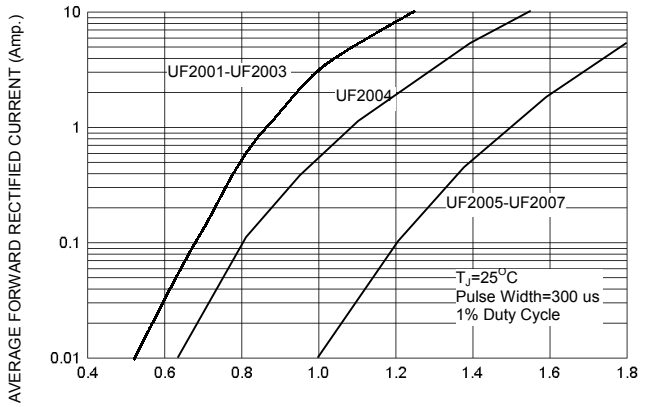
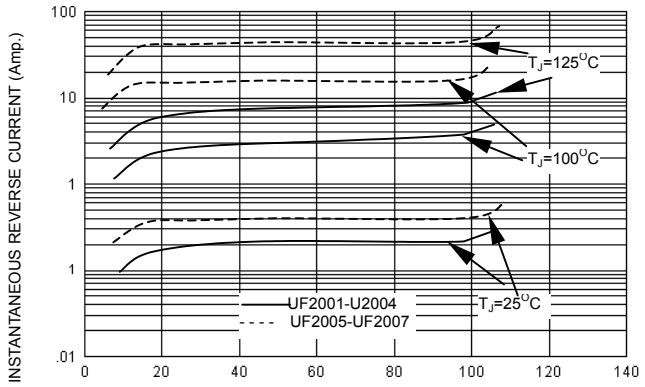



FIG-2 TYPICAL REVERSE CHARACTERISTICS




8.3 ms Single Half Sine Wave

FIG-3 FORWARD CURRENT DERATING CURVE

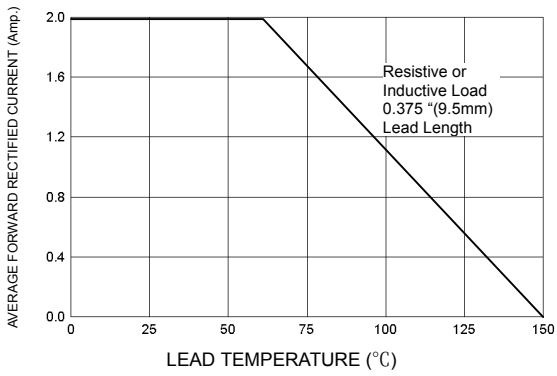



FIG-4TYPICAL JUNCTION CAPACITANCE

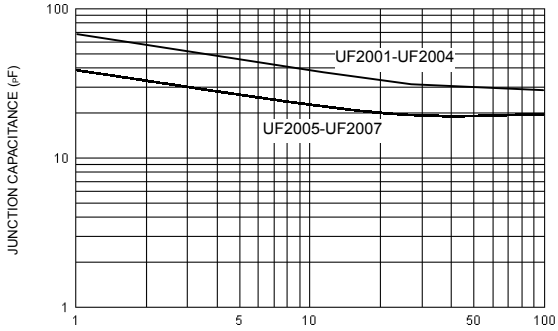
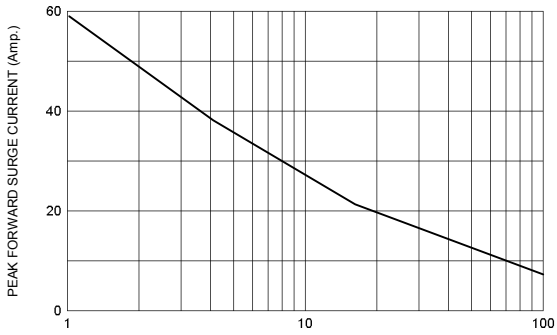
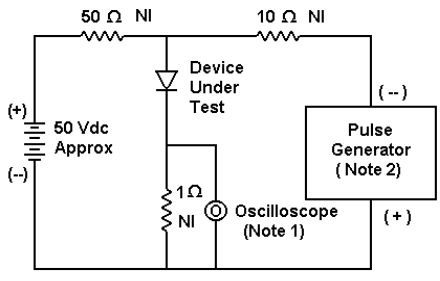
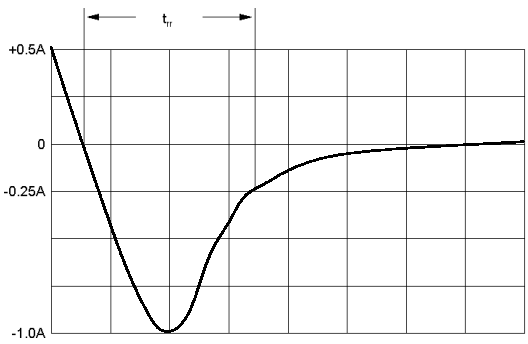



FIG-5PEAK FORWARD SURGE CURRENT




Notes:
1. Rise Time = 7 ns max. Input Impedance =1 M Ω , 22 pF
2. Rise Time = 10 ns max. Input Impedance = 50 Ω




Set time base for 20/50 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram