

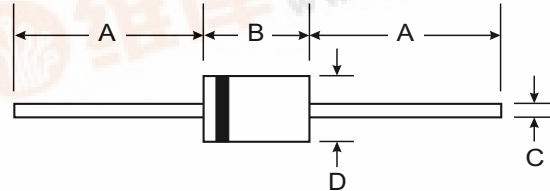


# UF2001 - UF2007

## 2.0A ULTRA-FAST RECTIFIER

### Features

- Diffused Junction
- Ultra-Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 60A Peak
- Low Reverse Leakage Current
- Plastic Material: UL Flammability Classification Rating 94V-0



### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 0.4 grams (approx.)
- Mounting Position: Any

DO-15		
Dim	Min	Max
A	25.40	—
B	5.50	7.62
C	0.686	0.889
D	2.60	3.60
All Dimensions in mm		

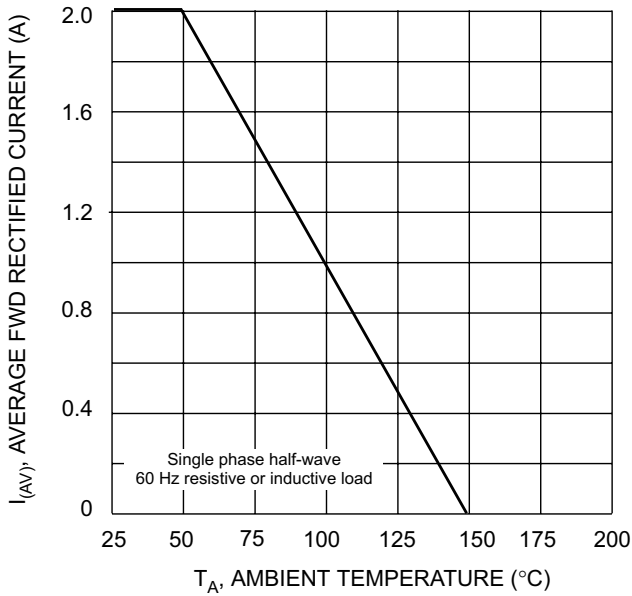
### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

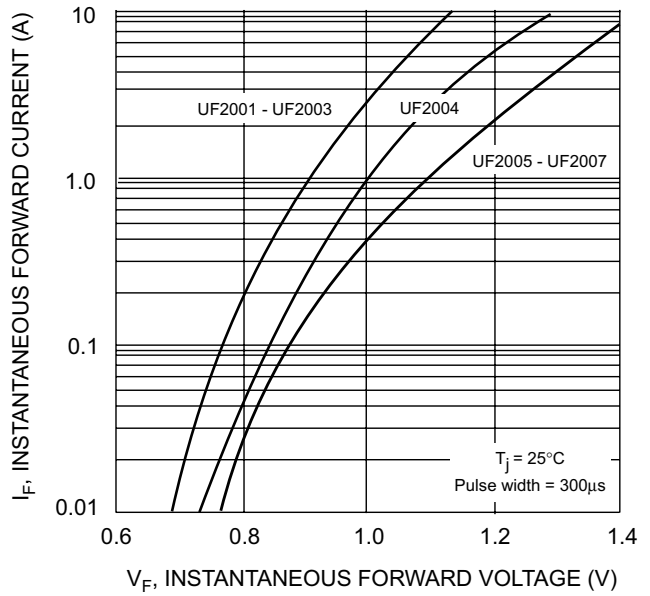
Characteristic	Symbol	UF 2001	UF 2002	UF 2003	UF 2004	UF 2005	UF 2006	UF 2007	Unit	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V	
Working Peak Reverse Voltage	V <sub>RWM</sub>									
DC Blocking Voltage	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V	
Average Rectified Output Current (Note 1)	I <sub>O</sub>	2.0							A	
@ T <sub>A</sub> = 50°C										
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	60							A	
Forward Voltage	V <sub>FM</sub>	1.0			1.3	1.7			V	
@ I <sub>F</sub> = 2.0A										
Peak Reverse Current	I <sub>RM</sub>					5.0				μA
@ T <sub>A</sub> = 25°C										
@ T <sub>A</sub> = 100°C										
Reverse Recovery Time (Note 3)	t <sub>rr</sub>	50				75			ns	
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	50				30			pF	
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	50							K/W	
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150							°C	

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Measured at I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See figure 5.

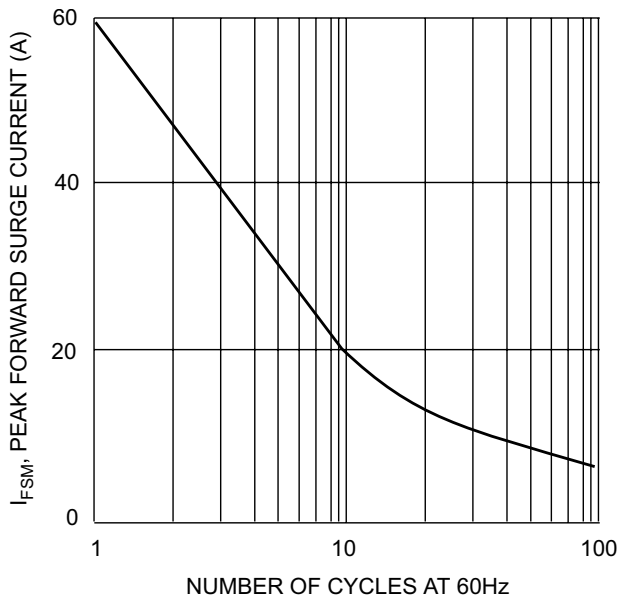




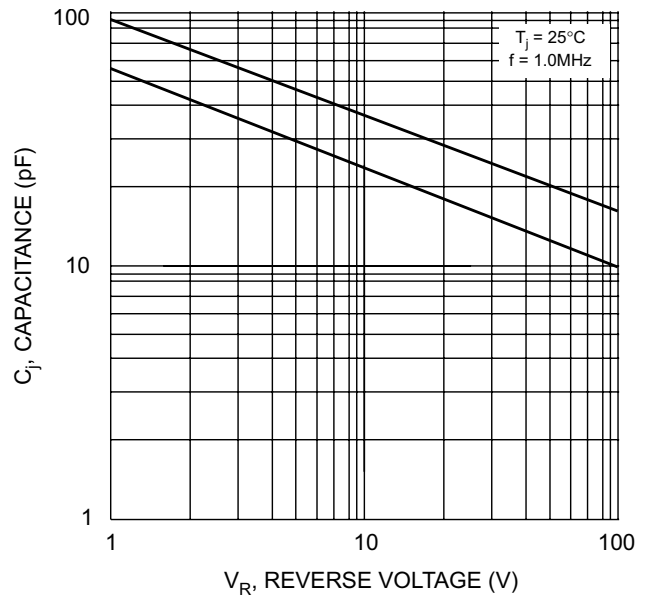
$T_A$ , AMBIENT TEMPERATURE ( $^{\circ}\text{C}$ )  
Fig. 1 Forward Current Derating Curve



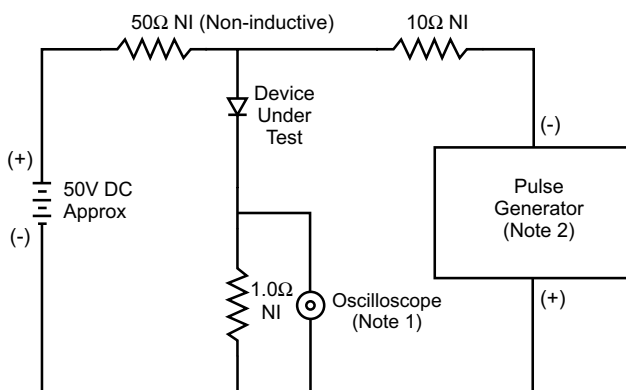
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



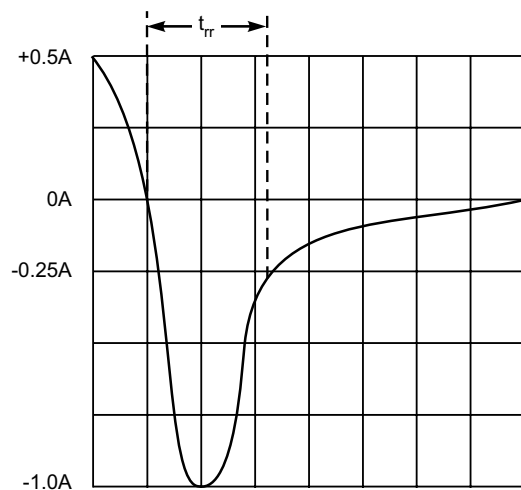
NUMBER OF CYCLES AT 60Hz  
Fig. 3 Peak Forward Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Junction Capacitance



- Notes:  
1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.  
2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit