

# UF1001 ~ UF1007

PRV : 50 ~ 1000 Volts

I<sub>o</sub> : 1.0 Ampere

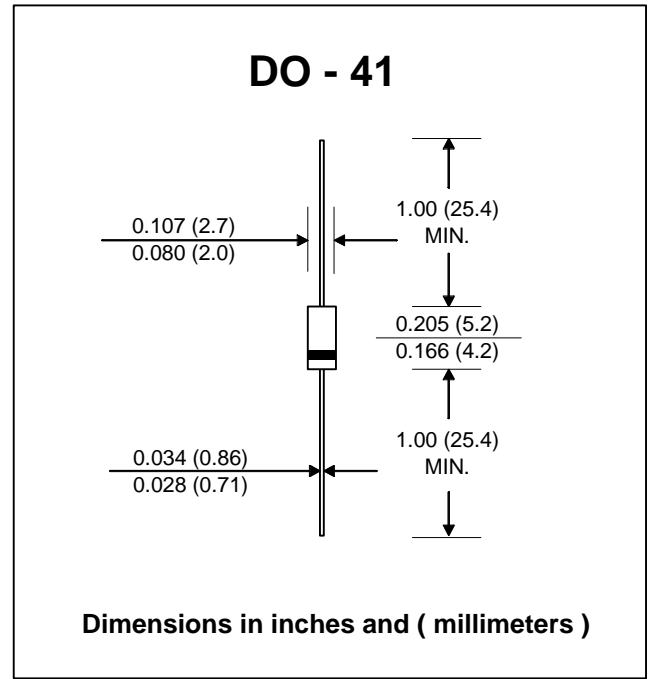
## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : DO-41 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.34 gram

# ULTRA FAST RECTIFIER DIODES



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

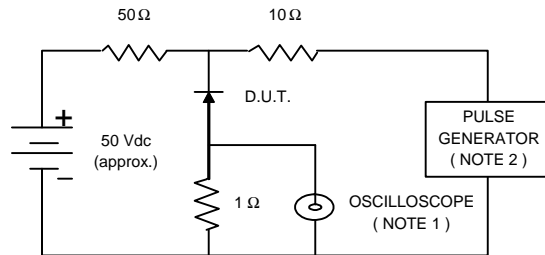
Rating at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

RATING	SYMBOL	UF1001	UF1002	UF1003	UF1004	UF1005	UF1006	UF1007	UNIT
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 Current 0.375"(9.5mm) Lead Length      T <sub>a</sub> = 55 °C	I <sub>F(AV)</sub>	1.0							A
Maximum Peak Forward Surge Current, 8.3ms Single half sine wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							A
Maximum Forward Voltage at I <sub>F</sub> = 1.0 A	V <sub>F</sub>	1.1					1.7		V
Maximum DC Reverse Current      T <sub>j</sub> = 25 °C at Rated DC Blocking Voltage      T <sub>j</sub> = 100 °C	I <sub>R</sub>	5							μA
	I <sub>R(H)</sub>	100							μA
Maximum Reverse Recovery Time <sup>(1)</sup>	T <sub>rr</sub>	50				75			ns
Typical Junction Capacitance <sup>(2)</sup>	C <sub>J</sub>	20				10			pf
Typical Thermal Resistance <sup>(3)</sup>	R <sub>θJA</sub>	25							C/W
Junction Temperature Range	T <sub>J</sub>	- 55 to + 150							°C
Storage Temperature Range	T <sub>STG</sub>	- 55 to + 150							°C

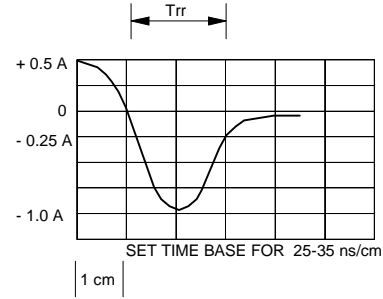
- Notes :** ( 1 ) Reverse Recovery Test Conditions : I<sub>F</sub> = 0.5 A, I<sub>R</sub> = 1.0 A, I<sub>rr</sub> = 0.25 A.  
 ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 V<sub>DC</sub>  
 ( 3 ) Thermal Resistance from Junction to Ambient.

## RATING AND CHARACTERISTIC CURVES ( UF1001 ~ UF1007 )

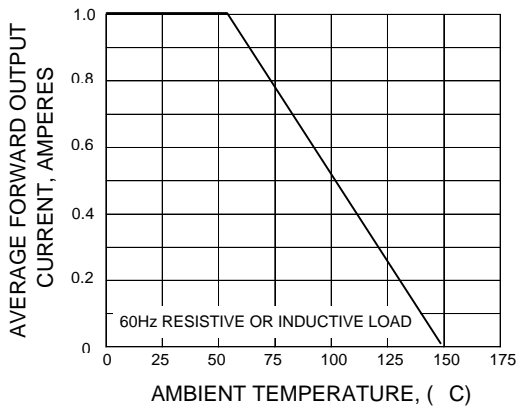
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



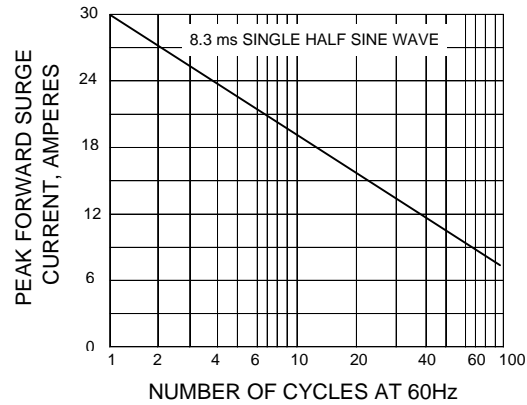
NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.



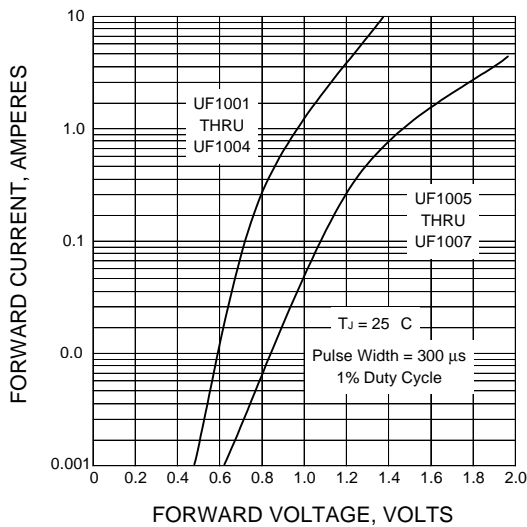
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

