



## Ultra Fast Rectifier

### Features

- Low cost construction
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length at 5lbs. (2.3kg) tension
- RoHS and REACH Compliance



### Mechanical Data

<b>Case:</b>	Transfer molded plastic
<b>Polarity:</b>	Color band denotes cathode end.
<b>Epoxy:</b>	UL94V-0 rate flame retardant
<b>Lead:</b>	Plated axial lead, solderable per MIL-STD-202E Method 208C
<b>Mounting Position:</b>	Any
<b>Weight:</b>	0.012 ounce, 0.33 gram

### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	Unit	Conditions
<b>VRRM</b>	Max Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V	
<b>VRMS</b>	Max RMS Voltage	35	70	140	280	420	850	700	V	
<b>VDC</b>	Max DC Blocking Voltage	50	100	200	400	600	800	1000	V	
<b>I(AV)</b>	Max Average Forward Rectified Current 0.375" (9mm) lead length	1.0							A	TA=55°C
<b>IFSM</b>	Peak Forward Surge Current, 8.3ms single half sine – wave superimposed on rated load	30							A	JEDEC method
<b>TJ,TSTG</b>	Operating and Storage Temperature Range	-65 to +150							°C	

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	Unit	Conditions	
<b>VF</b>	Max Instantaneous Forward Voltage	1.0			1.7				V	1.0A	
<b>Rθ-JA</b>	Typical Thermal Resistance	60								°C/W	Note 3
<b>IR</b>	Max DC Reverse Current at Rated DC Blocking Voltage	10								µA	TA=25°C
		500									TA=125°C
<b>TRR</b>	Maximum reverse recovery time	50			75				nS	TJ = 25°C Note 1	
<b>CJ</b>	Typical Junction capacitance	15								pF	Note 2

#### Note:

1. Test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
2. Measured at 1 MHz and applied reverse of 4.0 volts
3. Thermal resistance from junction to ambient with 0.375" (9.5mm) lead length, P.C.B mounted.

# UF4001 ~ UF4007

## RATINGS AND CHARACTERISTIC CURVES UF4001 THRU UF4007

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

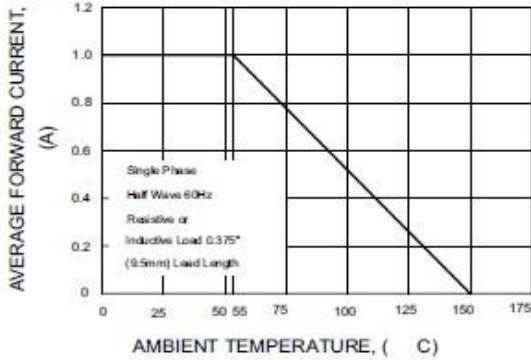


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

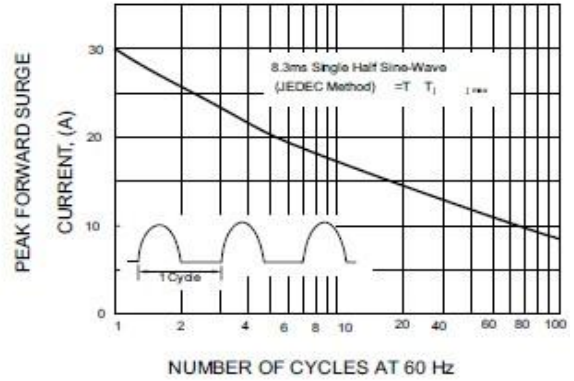


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

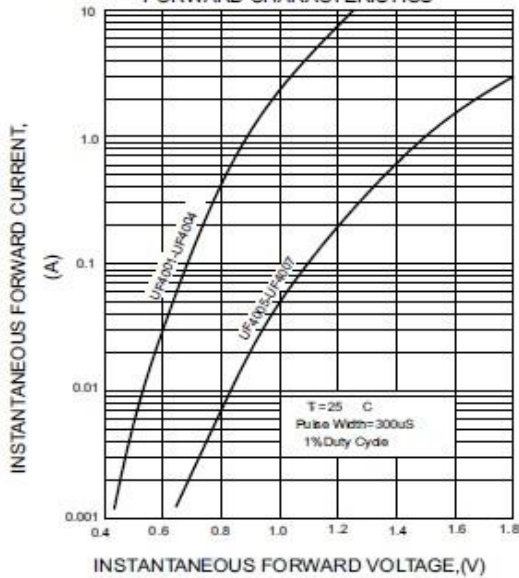


FIG.4-TYPICAL REVERSE CHARACTERISTICS

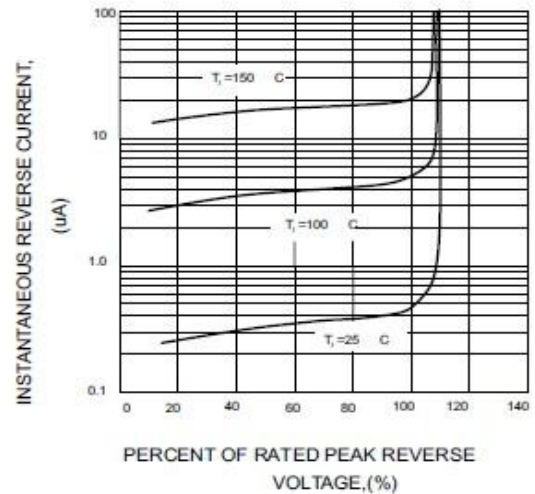


FIG.5-TYPICAL JUNCTION CAPACITANCE

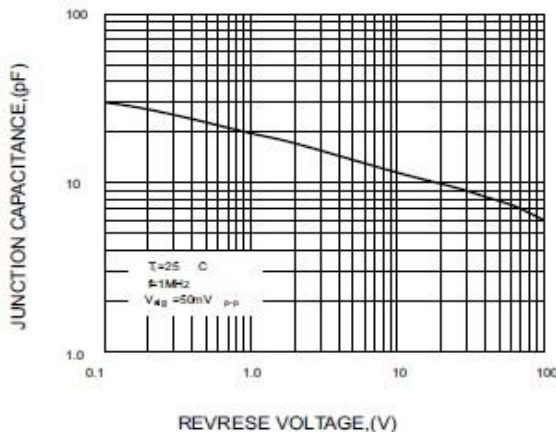
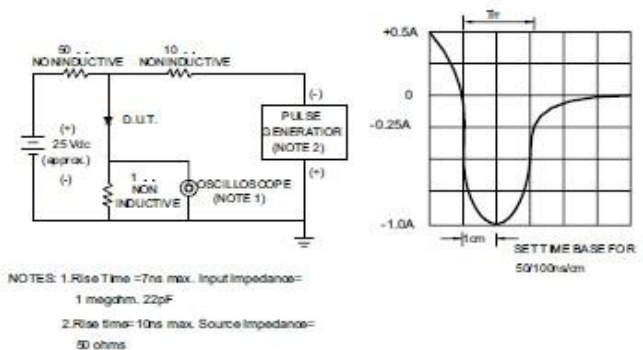
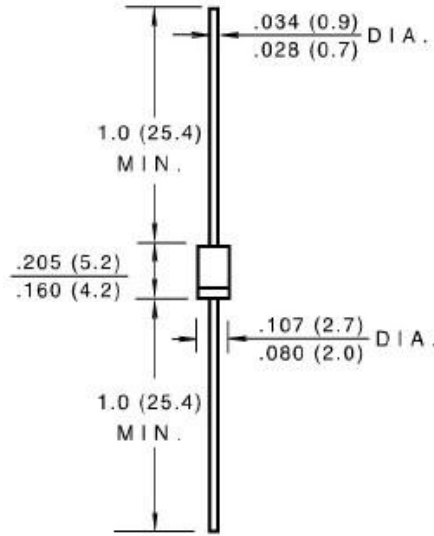


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



Dimensions in inches (mm)



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