



# 1 AMP SILICON RECTIFIERS UF4001 THRU UF4007

## TECHNICAL SPECIFICATION

### FEATURES

- Low cost construction utilising void-free moulded plastic technique
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ultra fast recovery times for high efficiency
- High surge current capability
- Low leakage
- High temperature soldering capability : 250°C/10 seconds/9.5mm (.375in.) lead length at 2.3kg (5lb) tension
- Easily cleaned with Freon, Alcohol, Chlorothene and other similar solvents.

### MECHANICAL DATA

Case : JEDEC DO-41, moulded plastic.  
 Terminals : Plated axial leads, solderable per MIL-STD-202, Method 208.  
 Polarity : Colour band denotes cathode end.  
 Mounting Position : Any  
 Weight : 0.35 grams (0.012 ounce)

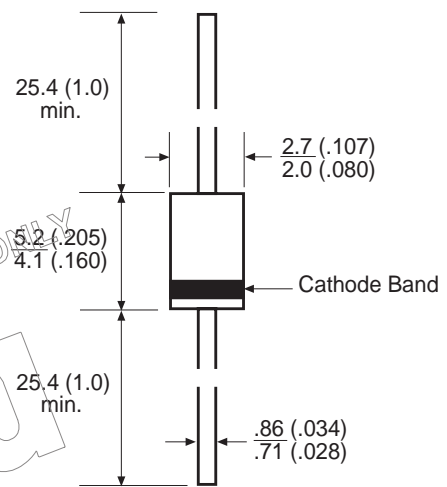
### VOLTAGE

50 to 1000 Volts

**CURRENT**  
1.0 Amp

### DIMENSIONS - millimeters (inches)

DO-41



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

	Symbols	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum non-repetitive peak reverse voltage	$V_{DC}$	60	120	240	480	720	1000	1200	V
Maximum Average Forward Rectified Current 9.5mm (.375in.) Lead Length at $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current, 8.3 ms single half sine - wave superimposed on rated load	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1.0			1.7			V	
Maximum Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A = 25^\circ\text{C}$							$\mu\text{A}$
		$T_A = 100^\circ\text{C}$							$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	50.0				75.0			nS
Typical Junction Capacitance (see Note 2)	$C_J$	17.0				15.0			pF
Typical Thermal Resistance (see Note 3)	$R_{THja}$	50				60.0			$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	- 55 to + 150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 55 to + 150							$^\circ\text{C}$

Notes :

1. Reverse Recovery Test Conditions :  $T_J = 25^\circ\text{C}$ ,  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
3. Thermal Resistance from Junction to Ambient

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## RATING AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

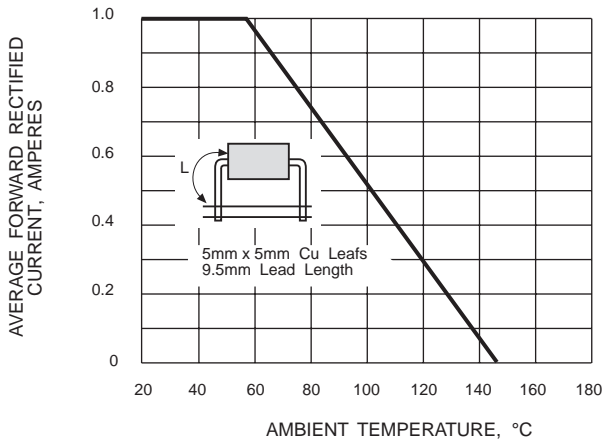


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

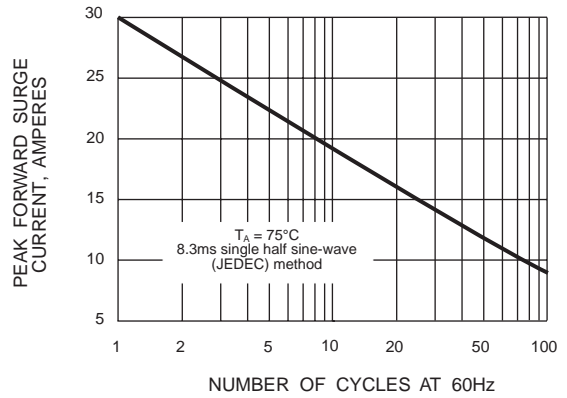


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

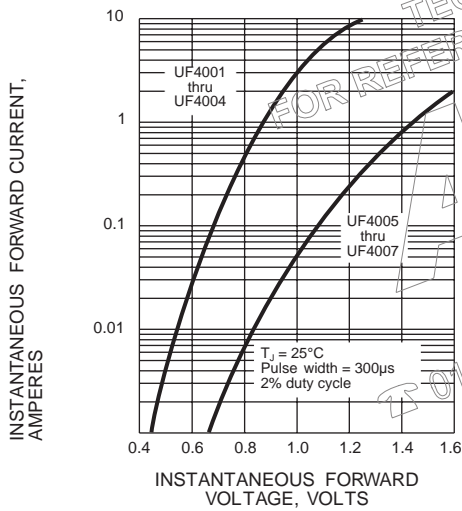


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

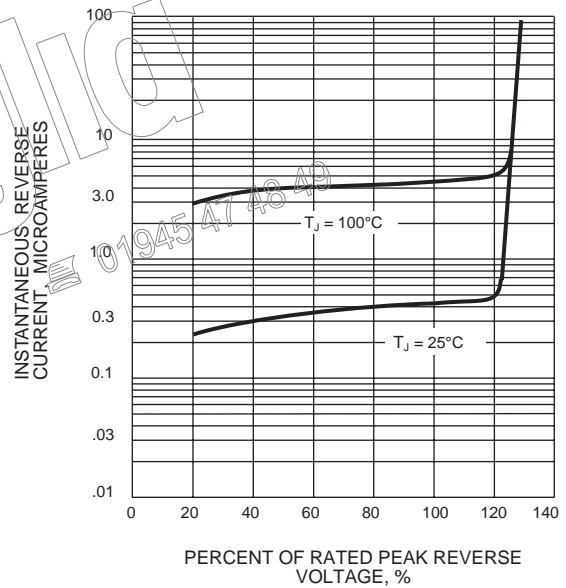
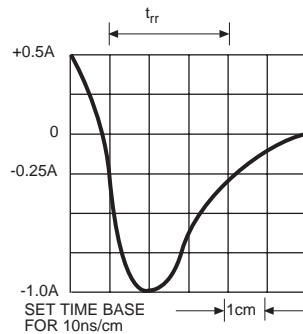
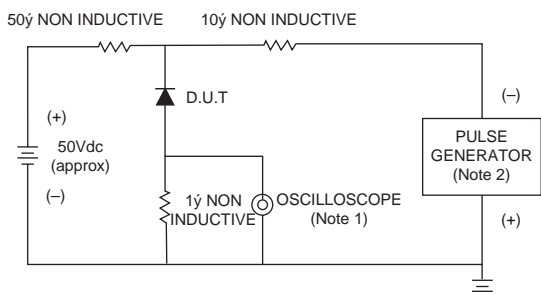


FIG. 5 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES 1 Rise Time = 7ns max, Input Impedance = 1 megaohm 22pF  
 2 Rise Time = 10ns max, Source Impedance = 50 ohms