

Voltage Range - 50 to 1000 V Forward Current - 1 Ampere

# **ULTRA FAST RECTIFIER**

## **FEATURES**

- Low cost construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:

260°C/10 secods/.375"(9.5mm)lead length at 5 lbs(2.3kg) tension

### **MECHANICAL DATA**

Case: Transfer molded plastic

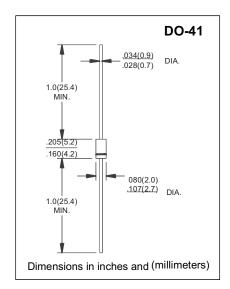
• Epoxy: UL94V-O rate flame retardant

Polarity: Color band denotes cathode end

Lead: Plated axial lead, solderable per MIL-STD-202E method 208C

Mounting position: Any

■ Weight: 0.012ounce, 0.33 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

 Ratings at 25 °C ambient temperature unless otherwise specified Single Phase, half wave, 60Hz, resistive or inductive load for capacitive load derate current by 20%

PARAMETER	SYMBOLS	UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 4007	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current 0.375"(9.5mm) lead length at $T_A$ = 55 $^{\circ}$ C	I <sub>(AV)</sub>	1.0							Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amps
Maximum Instantaneous Forward Voltage @ 1.0A	$V_{F}$	1.0					Volts		
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^{\circ}\text{C}$ $T_A = 125^{\circ}\text{C}$	$I_R$	10							μΑ
		50							
Maximum Reverse Recovery Time T <sub>J</sub> = 25 °C (NOTE 1)	trr	50 75						ns	
Typical Thermal Resistance (NOTE 2)	$C_{J}$	15						PF	
Typical Thermal Resistance(NOTE 3)	$R_{\theta JA}$	60							°C/W
Operating Junction Temperature Range	$T_{J}$ , $T_{STG}$	(-55 to +150)							$^{\circ}$

#### **Notes:**

- 1 Test Condition:IF=0.5A,IR=1.0A,IRR=0.25A
- 2. Measured at 1.0 MHz and applied reverse of 4.0 volts.
- 3 Thermal resistance from junction to ambient with .375"(9.5mm)lead length, P.C.B. mounted..

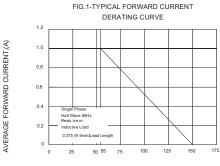
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## RATING AND CHARACTERISTIC CURVES UF4001 - UF4007





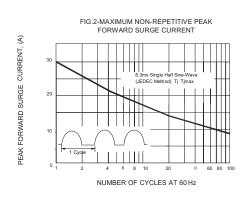


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

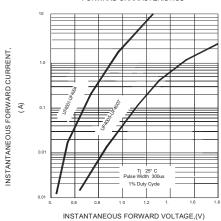


FIG.4-TYPICAL REVERSE CHARACTERISTICS

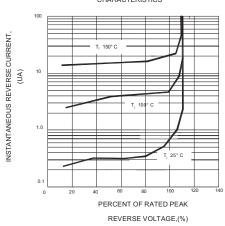


FIG.5-TYPICAL JUNCTION CAPACITANCE

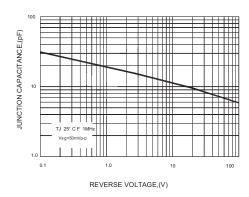
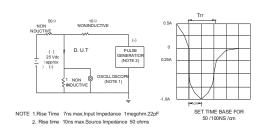


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE REXOVERY TIME CHARACTERISTIC



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