



# Frontier Electronics Corp.

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## 1A GLASS PASSIVATED ULTRA FAST RECOVERY RECTIFIER

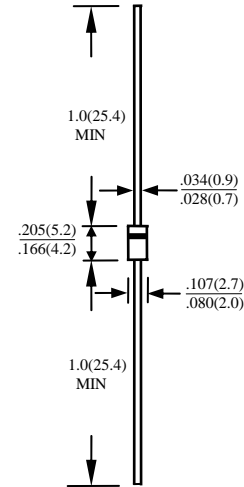
### UF4001G THRU UF4007G

#### FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- GLASS PASSIVATED CHIP JUNCTION
- ULTRA FAST RECOVERY TIMES FOR HIGH EFFICIENCY
- LOW FORWARD VOLTAGE, HIGH CURRENT CAPABILITY
- LOW LEAKAGE
- HIGH SURGE CAPABILITY
- HIGH TEMPERATURE SOLDERING GUARANTEED:  
260°C/0.375" (9.5mm) LEAD LENGTHS FOR 10 SECONDS AT 5 LBS. (2.3KG) TENSION

#### MECHANICAL DATA

- CASE: MOLDED PLASTIC, DO41, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: AXIAL LEADS SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE END
- MOUNTING POSITION: ANY
- WEIGHT: 0.34 GRAMS



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%

RATINGS	SYMBOL	UF 4001G	UF 4002G	UF 4003G	UF 4004G	UF 4005G	UF 4006G	UF 4007G	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 DC BLOCKING VOLTAGE	$V_{DC}$	50	100	200	400	600	800	1000	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT 0.375" (9.5mm) LEAD LENGTH AT $T_A = 55^\circ\text{C}$	$I_O$	1.0							A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	30							A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_j$	20				15			PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta jc}$	50							$^\circ\text{C}/\text{W}$
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 55 TO + 150							$^\circ\text{C}$
OPERATING TEMPERATURE RANGE	$T_{OP}$	- 55 TO + 150							$^\circ\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	UF 4001G	UF 4002G	UF 4003G	UF 4004G	UF 4005G	UF 4006G	UF 4007G	UNITS	
MAXIMUM FORWARD VOLTAGE AT $I_O$ DC	$V_F$	1.3			1.7				V	
MAXIMUM DC REVERSE CURRENT AT $T_A = 25^\circ\text{C}$	$I_R$	1								$\mu\text{A}$
MAXIMUM DC REVERSE CURRENT AT $T_A = 100^\circ\text{C}$	$I_R$	10								$\mu\text{A}$
MAXIMUM REVERSE RECOVERY TIME (NOTE3)	$T_{RR}$	50				75				nS

- NOTE: 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS  
 2. BOTH LEADS ATTACHED TO HEAT SINK 20x20x1t(mm) COPPER PLATE AT LEAD LENGTH 5mm  
 3. REVERSE RECOVERY TEST CONDITIONS:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$

# RATINGS AND CHARACTERISTIC CURVE UF4001G THRU UF4007G

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

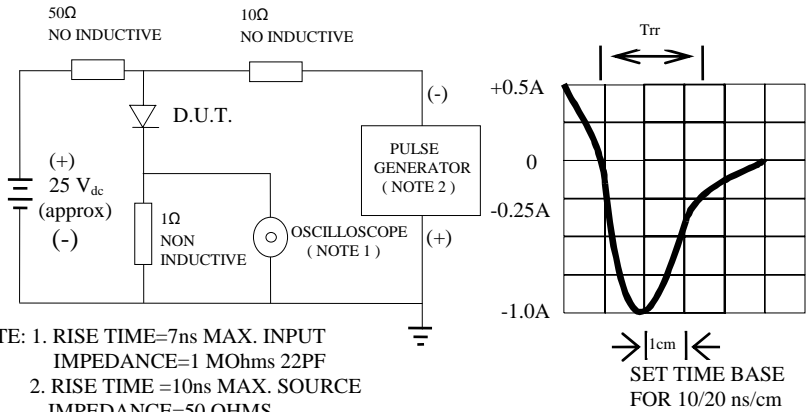


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

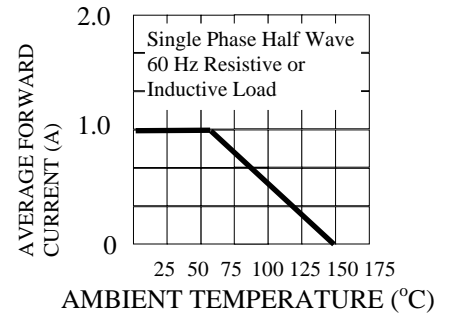


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

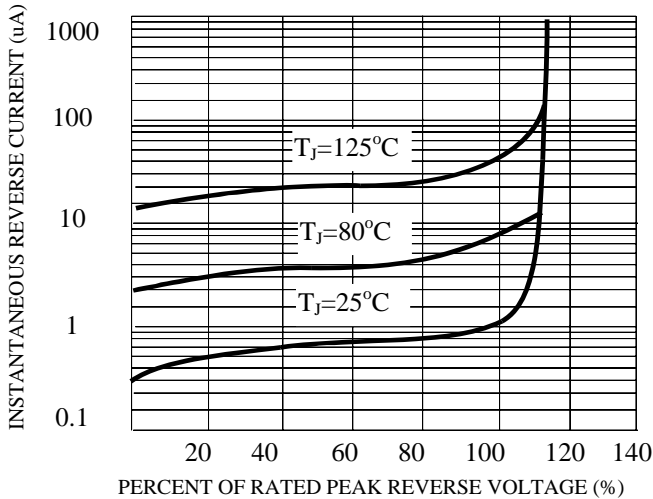


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

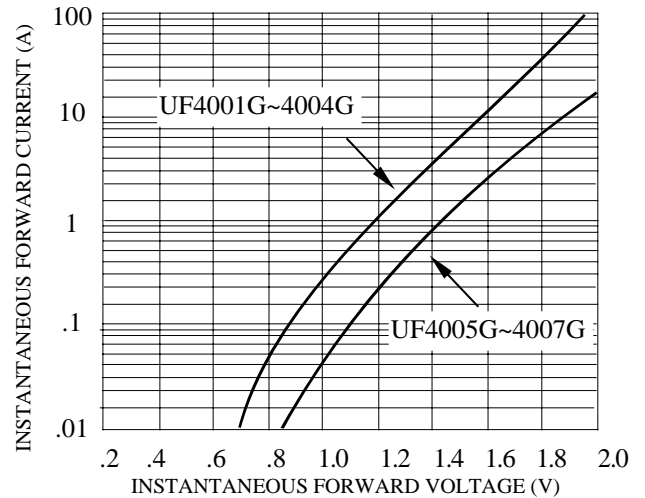


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

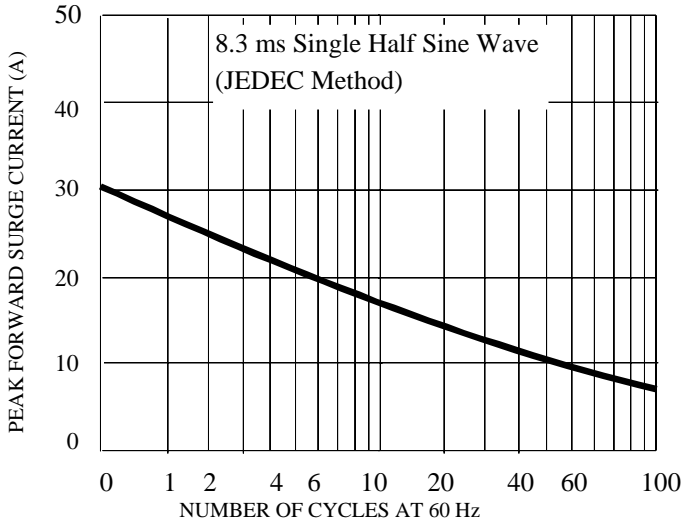


FIG. 6-TYPICAL JUNCTION CAPACITANCE

