

### ULTRA FAST RECTIFIERS

VOLTAGE RANGE: 100 --- 800 V  
CURRENT: 10 A

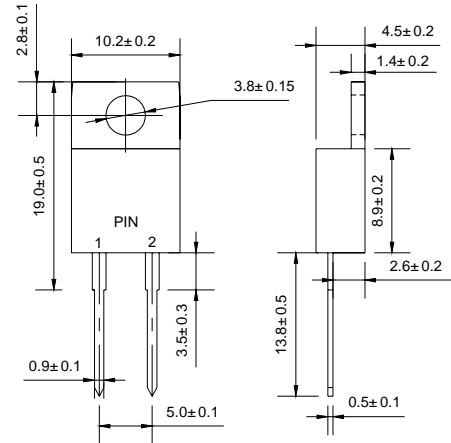
#### FEATURES

- ◇ Low cost
- ◇ Diffuse junction
- ◇ Glass passivated chip junction
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with freon, alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC TO-220AC
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: As marked
- ◇ Weight: 0.064 ounces, 1.81 gram
- ◇ Mounting position: Any

#### TO-220AC



Dimensions in millimeters

#### 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 by 20%.

		UF 1010	UF 1020	UF 1030	UF 1040	UF 1060	UF 1080	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	300	400	600	800	V
Maximum RMS voltage	$V_{RMS}$	70	140	210	280	420	560	V
Maximum DC blocking voltage	$V_{DC}$	100	200	300	400	600	800	V
Maximum average forward rectified current @ $T_C=100^\circ C$	$I_{F(AV)}$	10						A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	150						A
Maximum instantaneous forward voltage @ 10A	$V_F$	1.0		1.3		1.7		V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=125^\circ C$	$I_R$	10 500						$\mu A$
Maximum reverse recovery time (Note1)	$t_{rr}$	50				100		ns
Typical junction capacitance (Note2)	$C_J$	80				50		pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	60						$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ----- + 150						$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ----- + 150						$^\circ C$

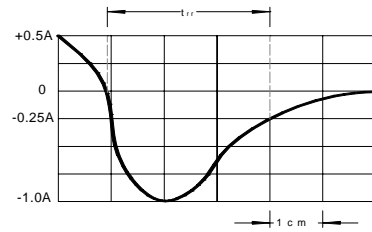
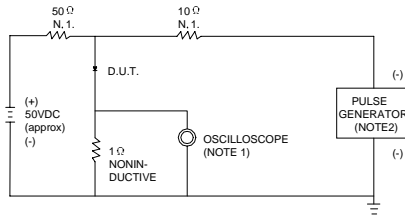
NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient

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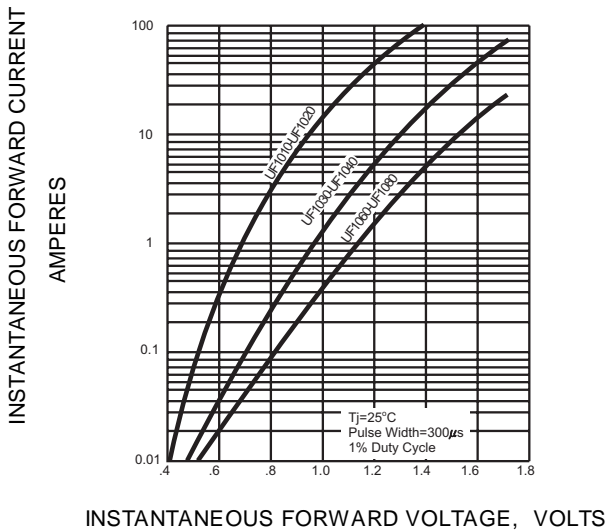
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



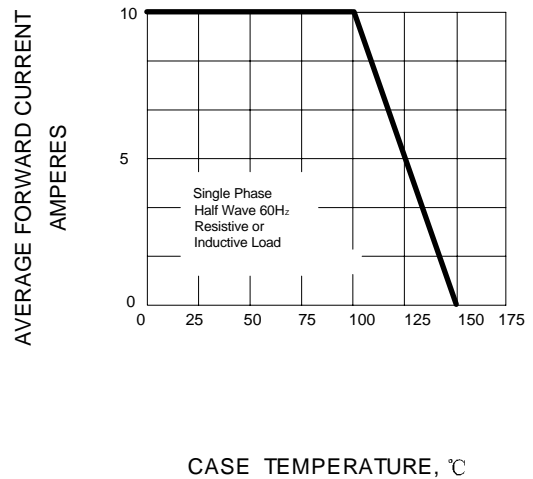
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ .22pF.  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 10/20 ns/cm

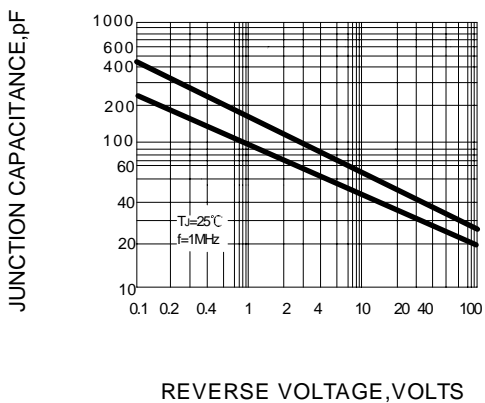
**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 -- FORWARD DERATING CURVE**



**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**



**FIG.5 -- PEAK FORWARD SURGE CURRENT**

