



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

1F1G  
THRU  
1F7G

TECHNICAL SPECIFICATIONS OF FAST RECOVERY GLASS PASSIVATED RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 1.0 Ampere

FEATURES

- \* High reliability
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High switching capability
- \* Glass passivated junction

MECHANICAL DATA

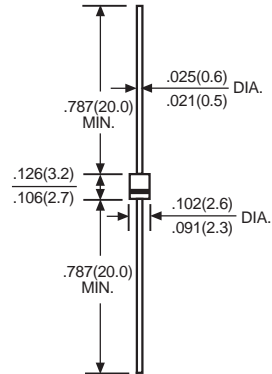
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rated flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.19 gram approx.

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%.



R-1



Dimensions in inches and (millimeters)

	SYMBOL	1F1G	1F2G	1F3G	1F4G	1F5G	1F6G	1F7G	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	500	100	200	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at T <sub>A</sub> = 55°C	I <sub>O</sub>	1.0							Amps	
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							Amps	
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>	1.3							Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage T <sub>A</sub> =25°C	I <sub>R</sub>	5.0							μAmps	
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T <sub>L</sub> = 55°C		500								
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>	150			250	500			nSec	
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	15							pF	
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	67								°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150								°C

Note: 1. Test Conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

3. Thermal resistance from junction to ambient and from junction to lead length 0.375" (9.5mm) P.C.B. mounted

# RATING AND CHARACTERISTIC CURVES (1F1G THRU 1F7G)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

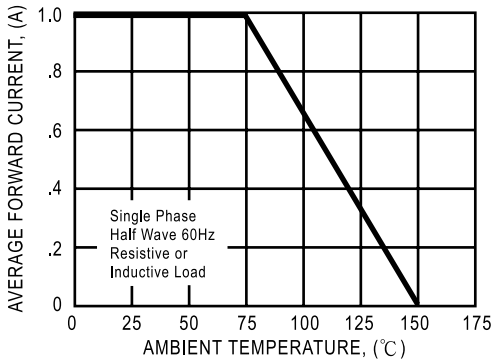


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

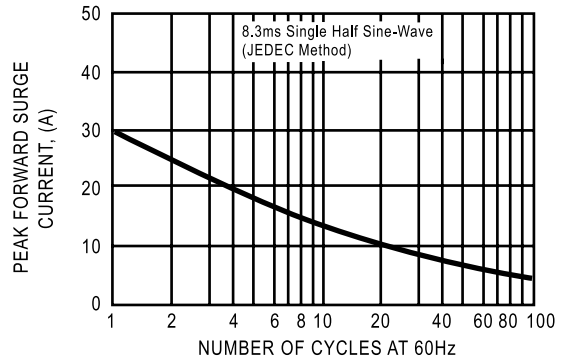


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

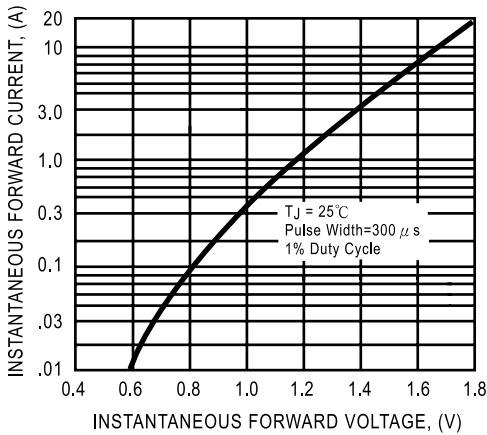


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

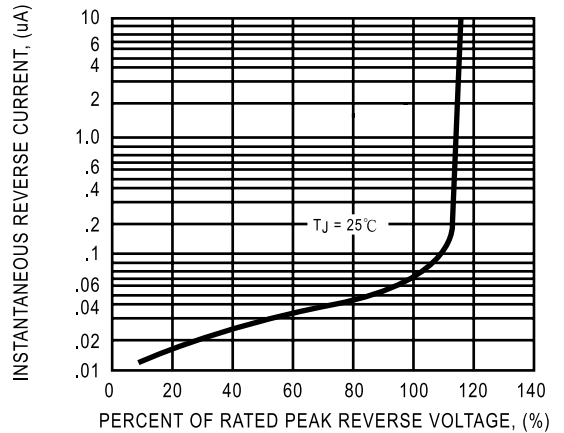


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

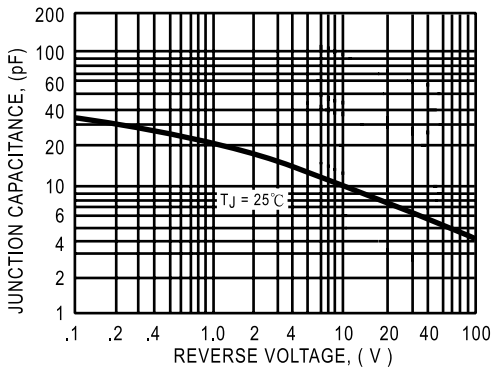
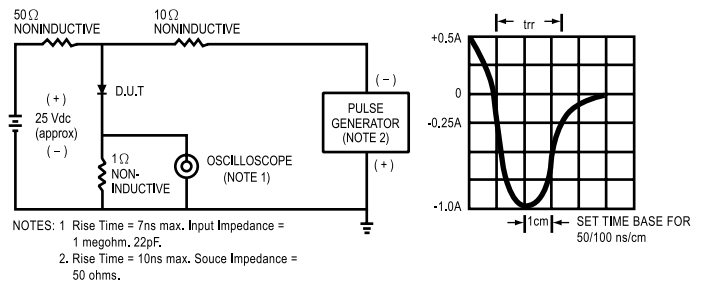


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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