

# 1F1G THRU 1F7G

## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 1.0 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O Utilizing Flame Retardant Epoxy Molding Compound
- Glass passivated junction
- 1.0 ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency

### MECHANICAL DATA

Case: Molded plastic, R-1

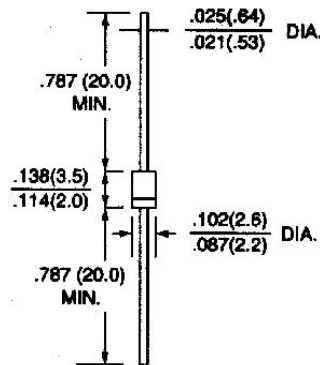
Terminals: Plated axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.0064 ounce, 0.181 gram

R-1



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	1F1G	1F2G	1F3G	1F4G	1F5G	1F6G	1F7G	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current .375"(9.5mm) lead length at $T_A=55^\circ\text{C}$	1.0							A
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load(JEDEC method)	30							A
Maximum Forward Voltage at 1.0A	1.3							V
Maximum Full Load Reverse Current Full Cycle Average, .375",9.5mm Lead Length at $T_A=55^\circ\text{C}$	10.0							$\mu\text{A}$
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	150							$\mu\text{A}$
Maximum Reverse Recovery Time(Note 1)	150	150	150	150	250	500	500	ns
Typical Junction capacitance (Note 2)	15							pF
Typical Thermal Resistance (Note 3) $R_{\theta JA}$	67							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range $T_J$	-55 to +150							$^\circ\text{C}$

### NOTES:

1. Measured with  $I_F=.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=.25\text{A}$
2. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
3. Thermal resistance from junction to ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B. mounted with 0.22×0.22"(5.5×5.5mm) copper pads

RATING AND CHARACTERISTIC CURVES  
1F1G THRU 1F7G

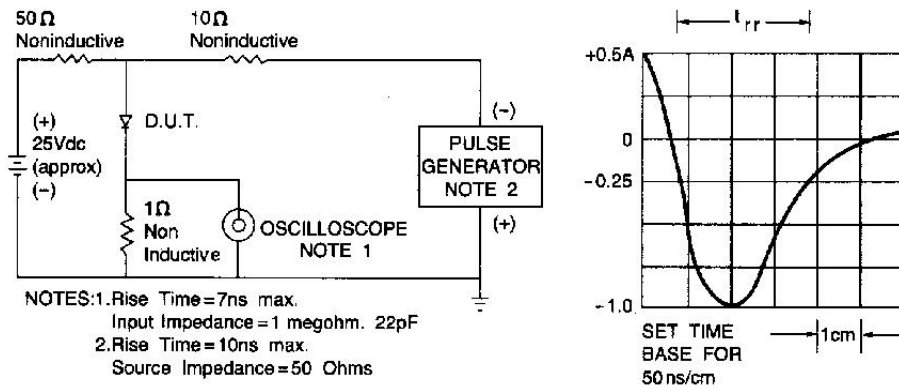


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

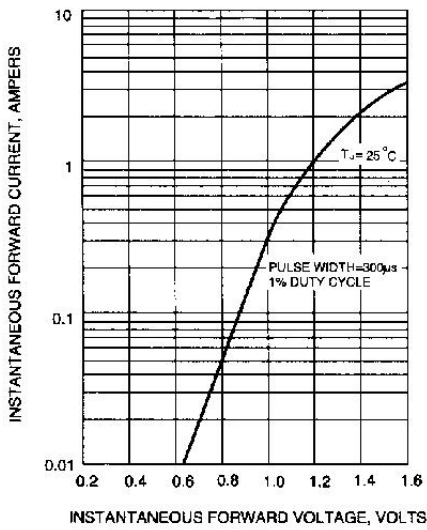


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

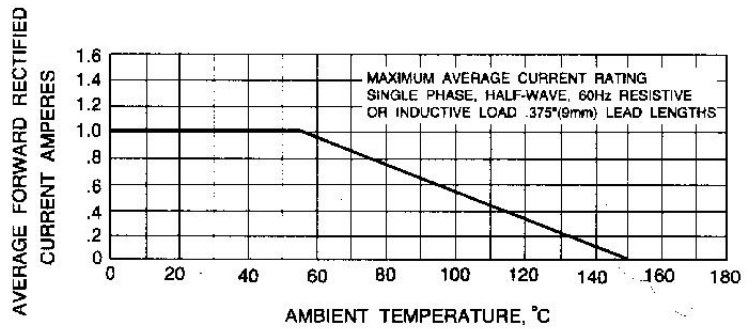


Fig. 3-FORWARD CURRENT DERATING CURVE

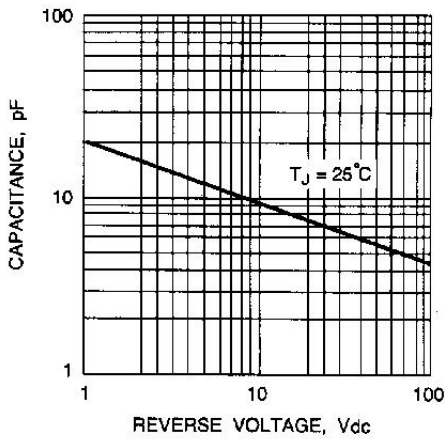


Fig. 4-TYPICAL JUNCTION CAPACITANCE

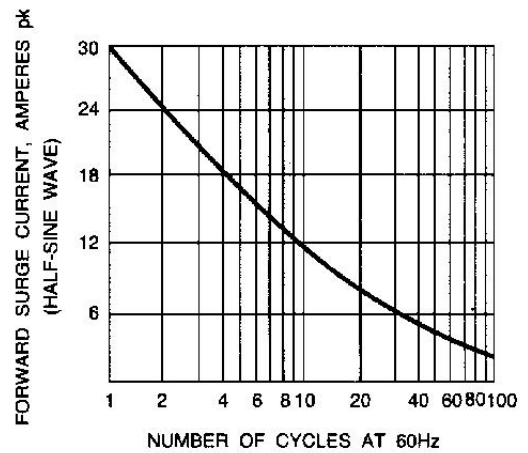


Fig. 5-PEAK FORWARD SURGE CURRENT