# 1F1G THRU 1F7G

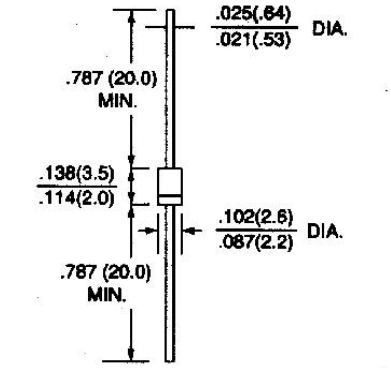
## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

## 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℃ with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Fast switching for high efficiency

**R-1**




Dimensions in inches and (millimeters)

### 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

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ 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℃ | 1.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load(JECEC 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℃ | 10.0 | | | | | | | μA |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A$=100℃ | 150 | | | | | | | μA |
| 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) RΘJA | 67 | | | | | | | ℃/W |
| Operating and Storage Temperature Range $T_J$ | -55 to +150 | | | | | | | ℃ |

NOTES:

1. Measured with $I_F$=.5A, $I_R$=1A, $I_{rr}$=.25A
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

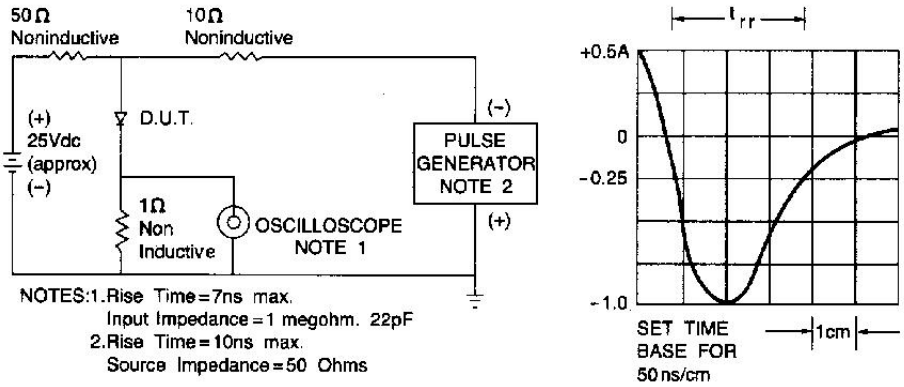



Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

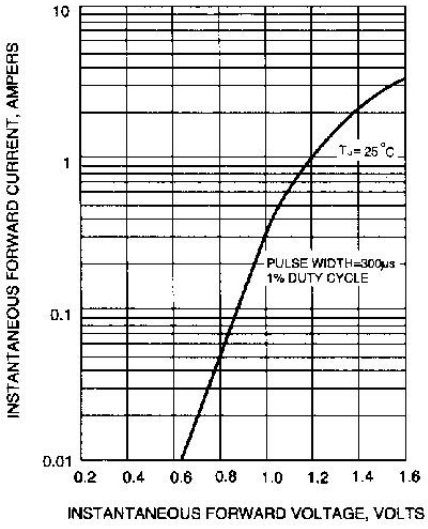



Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

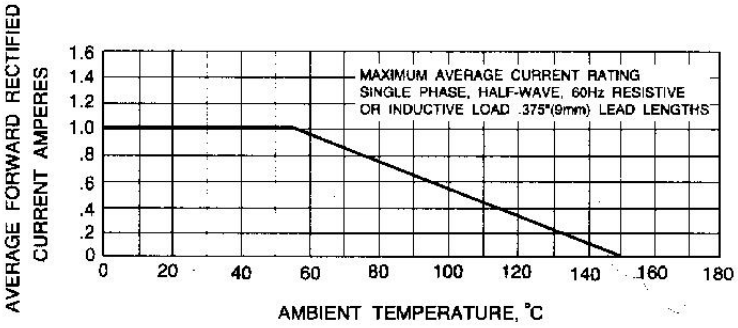



Fig. 3-FORWARD CURRENT DERATING CURVE

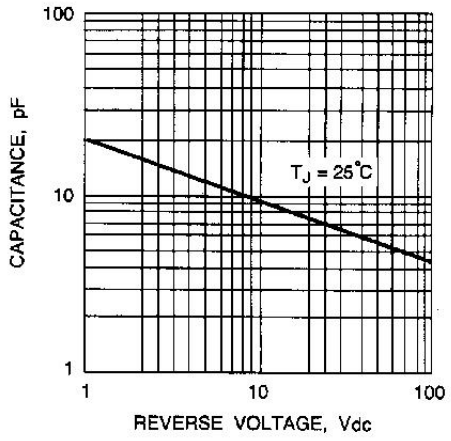



Fig. 4-TYPICAL JUNCTION CAPACITANCE

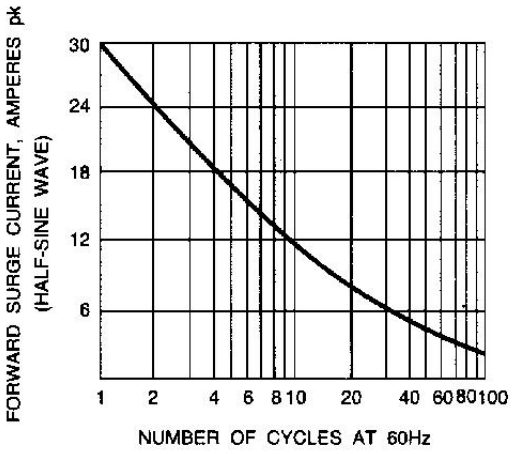



Fig. 5-PEAK FORWARD SURGE CURRENT