



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

1F1  
THRU  
1F7

**TECHNICAL SPECIFICATIONS OF MINIATURE FAST RECOVERY RECTIFIER**

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 1.0 Ampere

**FEATURES**

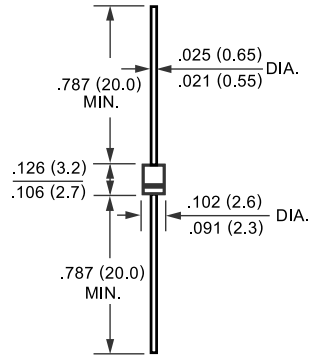
- \* Fast switching
- \* Low leakage
- \* High current capability
- \* High current surge
- \* High reliability

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Mounting position: Any
- \* Weight: 0.19 gram



R-1



Dimensions in inches and (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 current by 20%.

|   | SYMBOL                            | 1F1          | 1F2 | 1F3 | 1F4 | 1F5 | 1F6 | 1F7  | 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>                   | 50           | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current at TA = 25°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 0.5A DC  | V <sub>F</sub>                    | 1.3          |     |     |     |     |     |      | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage TA = 25°C                                       | I <sub>R</sub>                    | 5.0          |     |     |     |     |     |      | uAmps |
| Maximum Full Load Reverse Current Full Cycle Average, .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    |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -65 to + 150 |     |     |     |     |     |      | °C    |

NOTES : 1. Reverse Recovery 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

# RATING AND CHARACTERISTIC CURVES ( 1F1 THRU 1F7 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

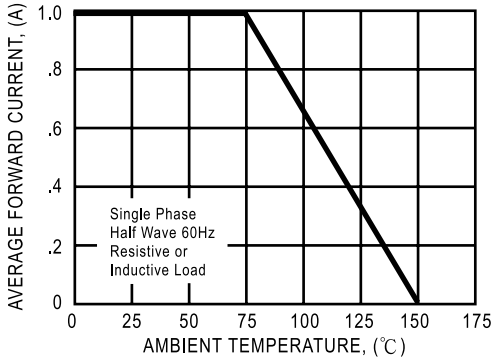


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

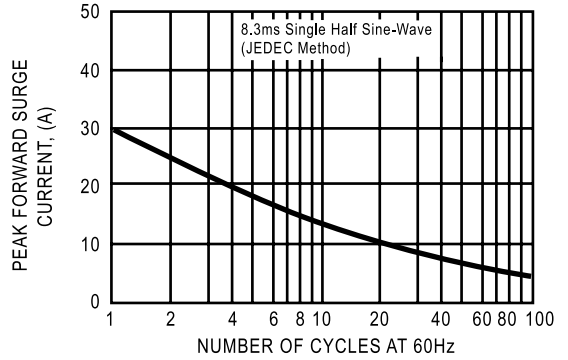


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

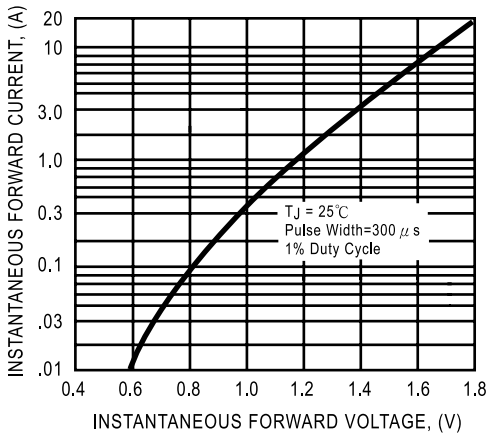


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

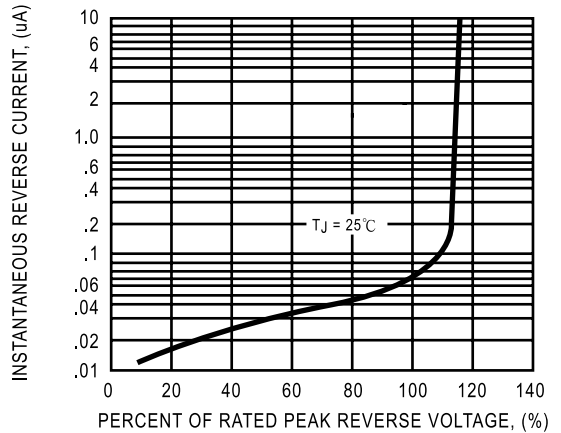


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

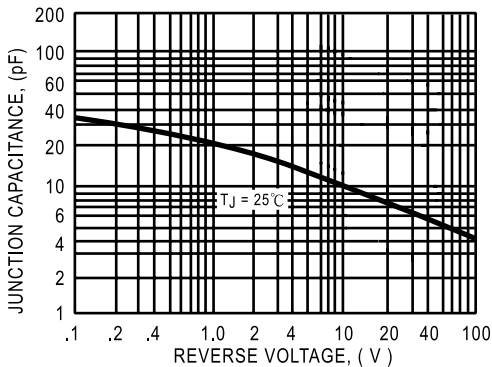
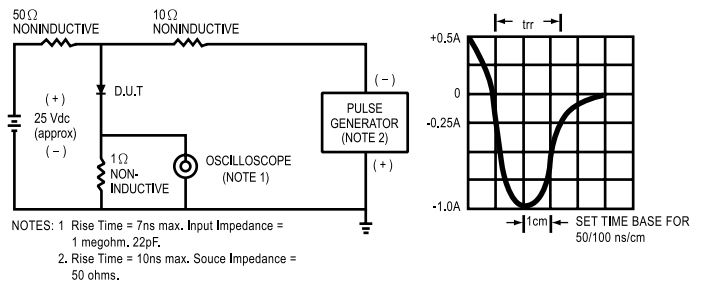


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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