

# 1F1 ~ 1F7

**PRV : 50 - 1000 Volts**

**Io : 1.0 Ampere**

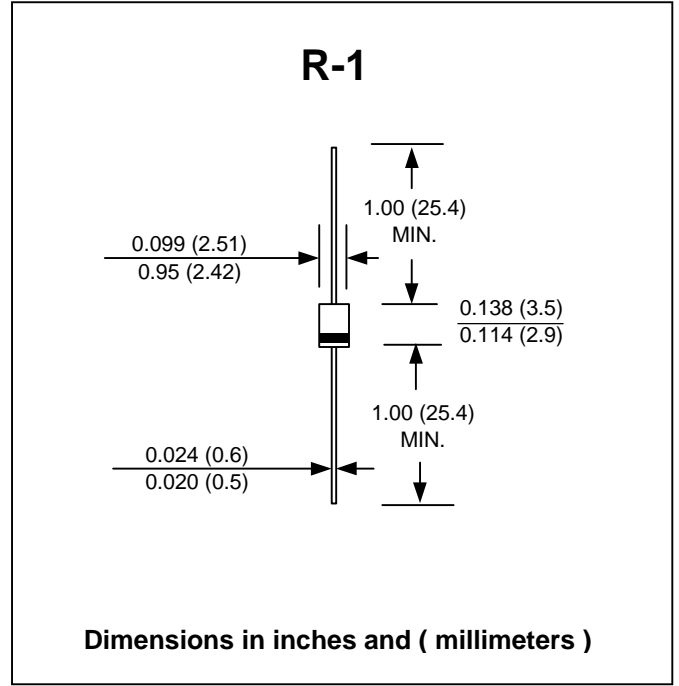
### FEATURES :

- \* High current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* Pb / RoHS Free

### MECHANICAL DATA :

- \* Case : Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.20 gram

## FAST RECOVERY DIODES



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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%.

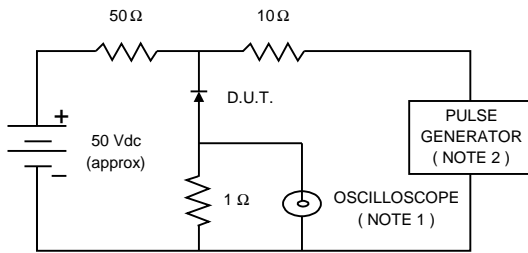
| RATING  | SYMBOL      | 1F1           | 1F2 | 1F3 | 1F4 | 1F5 | 1F6 | 1F7  | UNIT             |
|---|-------------|---------------|-----|-----|-----|-----|-----|------|------------------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$   | 50            | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| Maximum RMS Voltage   | $V_{RMS}$   | 35            | 70  | 140 | 280 | 420 | 560 | 700  | V                |
| Maximum DC Blocking Voltage   | $V_{DC}$    | 50            | 100 | 200 | 400 | 600 | 800 | 1000 | V                |
| Maximum Average Forward Current<br>0.375"(9.5mm) Lead Length $T_a = 55\text{ }^\circ\text{C}$                                 | $I_{F(AV)}$ | 1.0           |     |     |     |     |     |      | A                |
| Peak Forward Surge Current<br>8.3ms Single half sine wave Superimposed<br>on rated load (JEDEC Method)                        | $I_{FSM}$   | 30            |     |     |     |     |     |      | A                |
| Maximum Forward Voltage at $I_F = 1.0\text{ A}$ .   | $V_F$       | 1.3           |     |     |     |     |     |      | V                |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$<br>at rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$ | $I_R$       | 5.0           |     |     |     |     |     |      | $\mu\text{A}$    |
|   | $I_{R(H)}$  | 100           |     |     |     |     |     |      | $\mu\text{A}$    |
| Maximum Reverse Recovery Time (1)   | $T_{rr}$    | 150           |     |     | 250 |     | 500 |      | ns               |
| Typical Junction Capacitance (2)  | $C_J$       | 15            |     |     |     |     |     |      | pF               |
| Junction Temperature Range  | $T_J$       | - 65 to + 125 |     |     |     |     |     |      | $^\circ\text{C}$ |
| Storage Temperature Range   | $T_{STG}$   | - 65 to + 150 |     |     |     |     |     |      | $^\circ\text{C}$ |

#### Notes :

- (1) Reverse Recovery Test Conditions :  $I_F = 0.5\text{ A}$ ,  $I_R = 1.0\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0VDC

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

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



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.

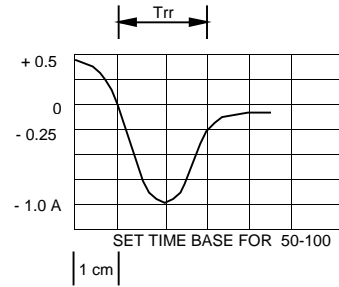


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

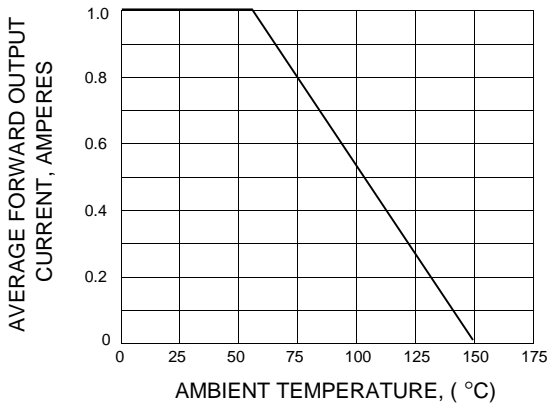


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

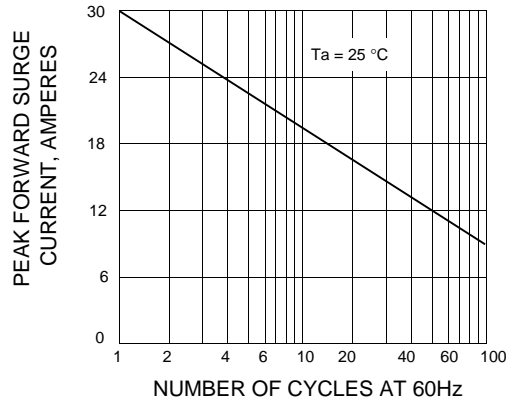


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

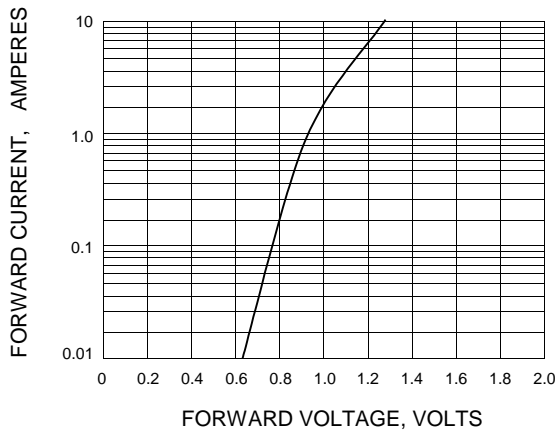


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

