# Fast Diode

RoHS Compliant

## Features:

- High current capability
- 1 Ampere operation at $T_A$ = 55°C with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage

## Specifications:

**Mechanical Data:**

| | |
|---|---|
| Case | : Moulded plastic |
| Terminals | : Plated axial leads, solderable per MIL-STD-202, Method 208 |
| Polarity | : Colour band denotes cathode |
| Mounting position | : Any |
| Weight | : 0.0064oz, 0.181g |

## Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

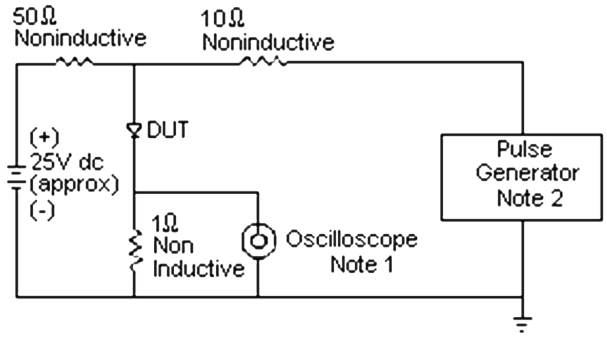
| Parameters | Rating | Units |
|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | 400 | V |
| Maximum RMS Voltage | 280 | |
| Maximum DC Blocking Voltage | 400 | |
| Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at $T_A$ = 55°C | 1 | A |
| Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | 30 | |
| Maximum Forward Voltage at 1A DC | 1.3 | V |
| Maximum Reverse Current $T_J$ = 25°C<br>at Rated DC Blocking Voltage $T_J$ = 100°C | 5<br>500 | µA |

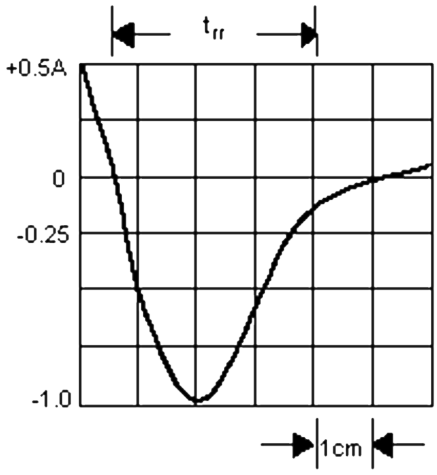
| Parameters | Rating | Units |
|---|---|---|
| Typical Junction Capacitance (Note 1) $C_J$ | 12 | pF |
| Typical Thermal Resistance (Note 3) $R_{\theta JA}$ | 67 | °C/W |
| Maximum Reverse Recovery Time (Note 2) | 150 | nS |
| Operating and Storage Temperature Range $T_J$, $T_{STG}$ | -55 to +150 | °C |

**Notes:**

1. Measured at 1MHz and applied reverse voltage of 4V DC.
2. Reverse recovery test conditions: $I_F$ = 0.5A, $I_R$ = 1A, $I_{rr}$ = 0.25A.
3. Thermal resistance from junction to ambient and from junction to lead length 0.375" (9.5mm) lead length PCB mounted with 0.22" × 0.22" (5.5mm × 5.5mm) copper pads.

## Ratings and Characteristic Curves




Set Time Base For 50nS/cm

**Notes:**

1. Rise Time = 7nS maximum Input Impedance = 1MΩ, 22pF
2. Rise Time = 10nS maximum Source Impedance = 50Ω

**Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram**

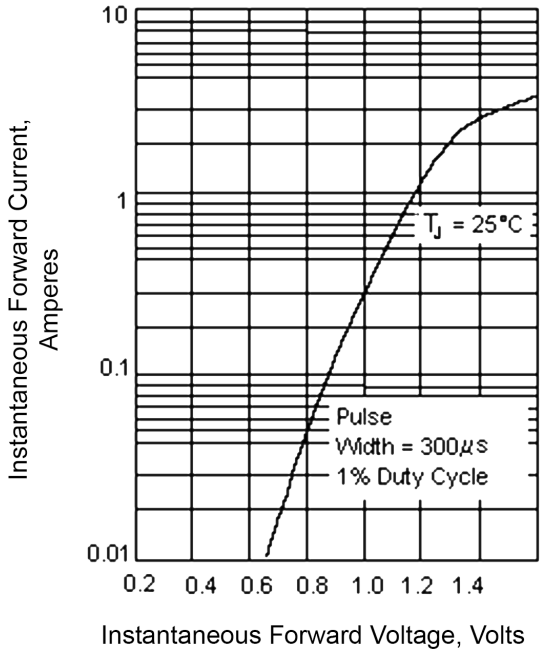



**Figure 2 - Typical Instantaneous Forward Characteristics**

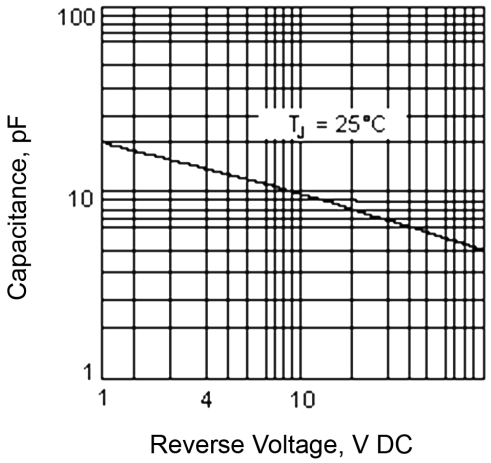



**Figure 4 - Typical Junction Capacitance**

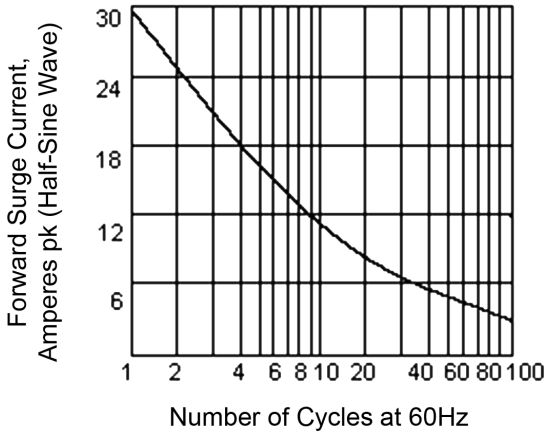



**Figure 5 - Peak Forward Surge Current**

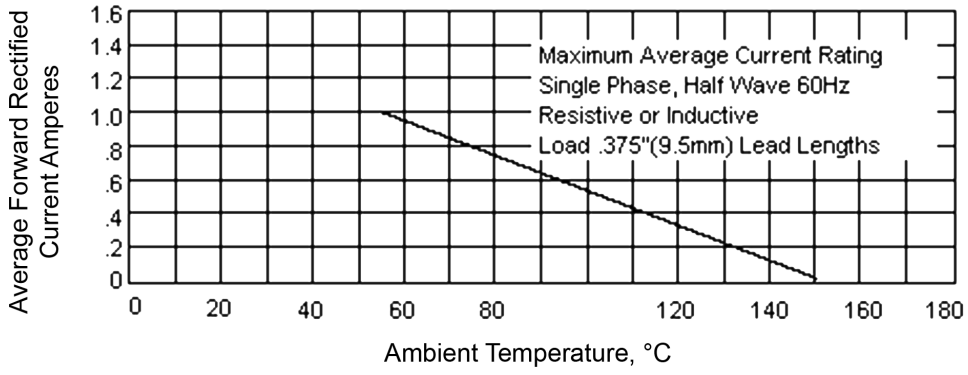
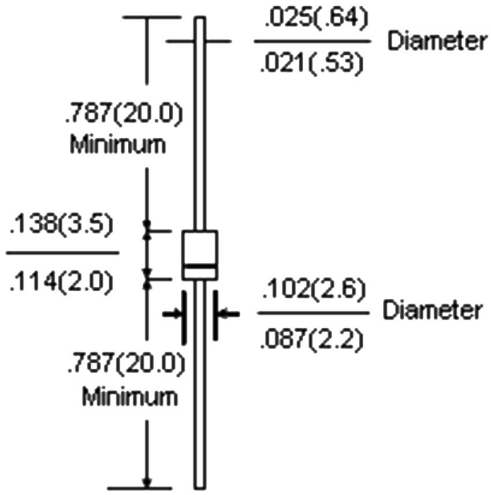



**Figure 3 - Forward Current Derating Curve**

**R-1**




Dimensions : Inches (Millimetres)

## Part Number Table

| Description | Part Number |
|---|---|
| Diode, Fast, 1A, 400V | 1F4 |