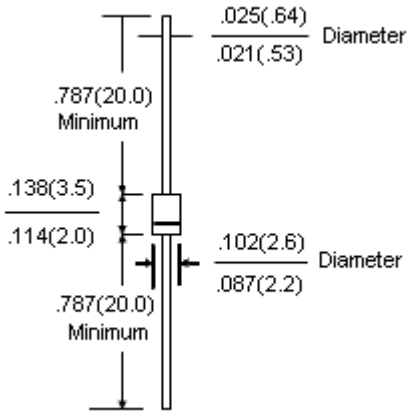
# 1F4

## Fast Switching Rectifier

### Axial

R-1




Dimensions : Inches(Millimetres)

### Features:

- High current capability.
- 1.0 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.

### 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 | : 0.0064 ounce, 0.181 gram. |

### 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%.

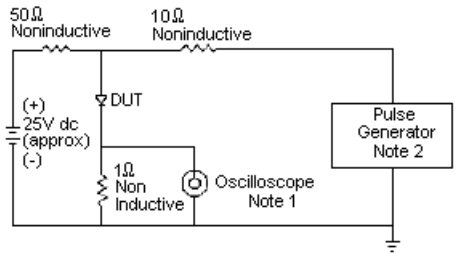
| Parameter | Rating | Units |
|---|---|---|
| Maximum recurrent peak reverse voltage | 400 | V |
| Maximum RMS voltage | 280 | |
| Maximum DC blocking voltage | 400 | |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A$ = 55°C | 1.0 | A |
| Peak forward surge current 8.3ms single half sine wave superimposed on rated load (JEDEC Method) | 30 | |
| Maximum forward voltage at 1.0A dc | 1.3 | V |
| Maximum reverse current $T_J$ = 25°C<br>at rated DC blocking voltage $T_J$ = 100°C | 5.0<br>500 | µA |
| Typical junction capacitance (Note 1) CJ | 12 | pF |

| Parameter | Rating | Units |
|---|---|---|
| Typical thermal resistance (Note 3) RθJA | 67 | °C/W |
| Maximum reverse recovery time (Note 2) | 150 | ns |
| Operating and Storage temperature range $T_J$, $T_{STG}$ | -55 to +150 | °C |

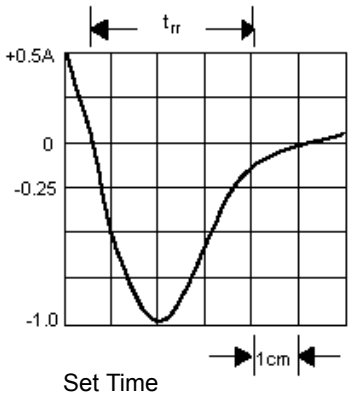
**Notes:**

1. Measured at 1MHz and applied reverse voltage of 4.0V dc.
2. Reverse recovery test conditions: $I_F$ = 0.5A, $I_R$ = 1.0A, $I_{rr}$ = 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 x 0.22" (5.5 x 5.5mm) copper pads.

## Rating and Characteristic Curves




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




Set Time
Base For
50nS/cm

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

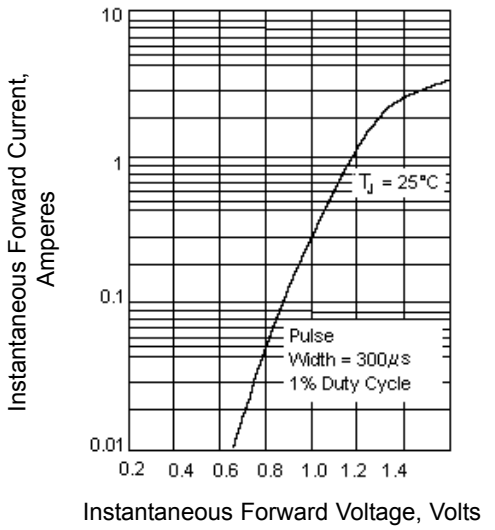



**Figure 2 - Typical Instantaneous Forward Characteristics**

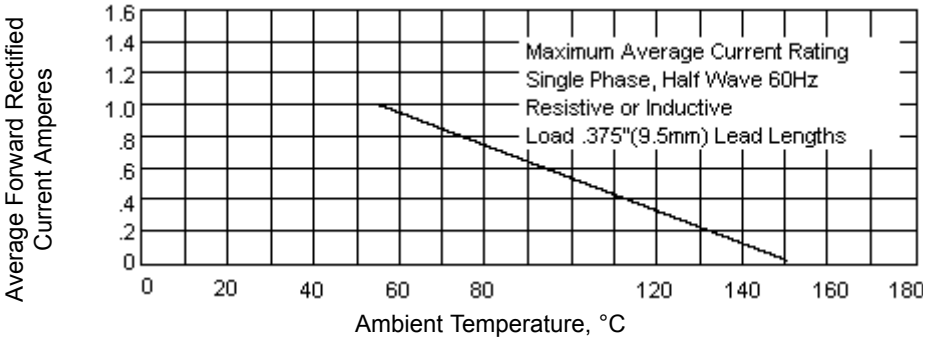



**Figure 3 - Forward Current Derating Curve**

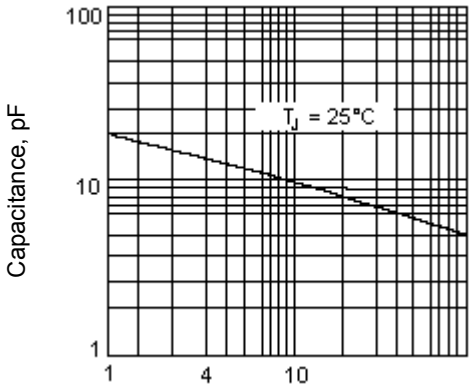



**Figure 4 - Typical Junction Capacitance**

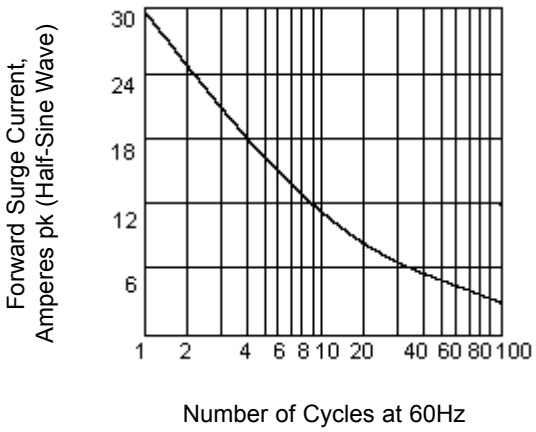



**Figure 5 - Peak Forward Surge Current**

## Specifications

| $V_{RRM}$ maximum (V) | $I_{F(av)}$ (A) | $I_{FSM}$ (A) | $t_{rr}$ maximum (nS) | $V_F$ (V) at $I_F$ = 1A | Length | Diameter | Package | Part Number |
|---|---|---|---|---|---|---|---|---|
| 1000 | 1 | 30 | 150 | 1.3 | 3.5 | 2.6 | R1 | 1F4 |

Dimensions : Millimetres

# 1F4

## Fast Switching Rectifier

**Notes:**

### International Sales Offices:


**AUSTRALIA** – Farnell InOne
Tel No: ++ 61 2 9645 8888
Fax No: ++ 61 2 9644 7898

**FINLAND** – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411

**NETHERLANDS** – Farnell InOne
Tel No: ++ 31 30 241 7373
Fax No: ++ 31 30 241 7333

**SWITZERLAND** – Farnell InOne
Tel No: ++ 41 1 204 64 64
Fax No: ++ 41 1 204 64 54

**AUSTRIA** – Farnell InOne
Tel No: ++ 43 662 2180 680
Fax No: ++ 43 662 2180 670

**FRANCE** – Farnell InOne
Tel No: ++ 33 474 68 99 99
Fax No: ++ 33 474 68 99 90

**NEW ZEALAND** – Farnell InOne
Tel No: ++ 64 9 357 0646
Fax No: ++ 64 9 357 0656

**UK** – Farnell InOne
Tel No: ++ 44 8701 200 200
Fax No: ++ 44 8701 200 201

**BELGIUM** – Farnell InOne
Tel No: ++ 32 3 475 2810
Fax No: ++ 32 3 227 3648

**GERMANY** – Farnell InOne
Tel No: ++ 49 89 61 39 39 39
Fax No: ++ 49 89 613 59 01

**NORWAY** – Farnell InOne
Tel No: ++ 45 44 53 66 66
Fax No: ++ 45 44 53 66 02

**UK** – BuckHickman InOne
++ 44 8450 510 150
++ 44 8450 510 130

**BRAZIL** – Farnell-Newark InOne
Tel No: ++ 55 11 4066 9400
Fax No: ++ 55 11 4066 9410

**HONG KONG** – Farnell-Newark InOne
Tel No: ++ 852 2268 9888
Fax No: ++ 852 2268 9899

**PORTUGAL** – Farnell InOne
Tel No: ++ 34 93 475 8804
Fax No: ++ 34 93 474 5288

**UK** – CPC
++ 44 8701 202 530
++ 44 8701 202 531

**CHINA** – Farnell-Newark InOne
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022

**IRELAND** – Farnell InOne
Tel No: ++ 353 1 830 9277
Fax No: ++ 353 1 830 9016

**SINGAPORE** – Farnell-Newark InOne
Tel No: ++ 65 6788 0200
Fax No: ++ 65 6788 0300

**EXPORT** – Farnell InOne
Tel No: ++ 44 8701 200 208
Fax No: ++ 44 8701 200 209
**For enquiries from all other markets**

**DENMARK** – Farnell InOne
Tel No: ++ 45 44 53 66 44
Fax No: ++ 45 44 53 66 06

**ITALY** – Farnell InOne
Tel No: ++ 39 02 93 995 200
Fax No: ++ 39 02 93 995 300

**SPAIN** – Farnell InOne
Tel No: ++ 34 93 475 8805
Fax No: ++ 34 93 474 5107

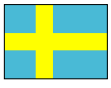
http://www.farnellinone.com

http://www.buckhickmaninone.com

http://www.cpc.co.uk

**ESTONIA** – Farnell InOne
Tel No: ++ 358 9 560 7780
Fax No: ++ 358 9 345 5411

**MALAYSIA** – Farnell-Newark InOne
Tel No: ++ 60 3 7873 8000
Fax No: ++ 60 3 7873 7000



**SWEDEN** – Farnell InOne
Tel No: ++ 46 8 730 50 00
Fax No: ++ 46 8 83 52 62