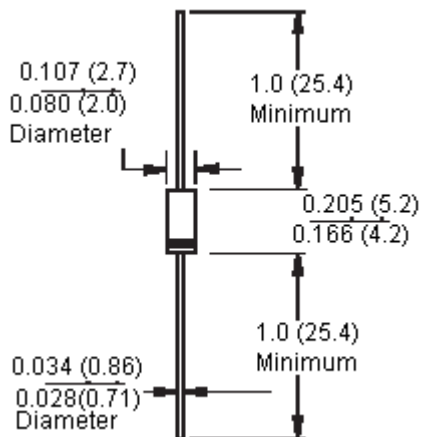


### 0.5A to 6A Axial



#### DO-41



Dimensions : Inches (Millimetres)

### Features:

- Low forward voltage drop.
- High current capability.
- High reliability.
- High surge current capability.

### Mechanical Data:

|                                       |  |
|---------------------------------------|--|
| Cases                                 | : Moulded plastic.   |
| Lead                                  | : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.          |
| Polarity                              | : Colour band denotes cathode end.   |
| High temperature soldering guaranteed | : 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension. |

### 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%.

| Type Number  | Symbol     | FR107      | Unit          |
|--|------------|------------|---------------|
| Maximum recurrent peak reverse voltage   | $V_{RRM}$  | 1000       | V             |
| Maximum RMS voltage  | $V_{RMS}$  | 700        |               |
| Maximum DC blocking voltage  | $V_{DC}$   | 1000       |               |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$                 | $I_{(AV)}$ | 1.0        | A             |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)                | $I_{FSM}$  | 30         |               |
| Maximum instantaneous forward voltage at 1.0A  | $V_F$      | 1.2        | V             |
| Maximum DC reverse current at $T_A = 25^\circ\text{C}$ at rated DC blocking voltage at $T_A = 100^\circ\text{C}$ | $I_R$      | 5.0<br>100 | $\mu\text{A}$ |
| Maximum reverse recovery time (Note 1)   | $T_{rr}$   | 500        | ns            |

| Type Number                           | Symbol                             | FR107       | Unit          |
|---------------------------------------|------------------------------------|-------------|---------------|
| Typical junction capacitance (Note 2) | $C_j$                              | 10          | pF            |
| Typical thermal resistance (Note 3)   | $R_{\theta JA}$<br>$R_{\theta JC}$ | 65<br>8     | $^{\circ}C/W$ |
| Operating temperature range           | $T_J$                              | -65 to +150 | $^{\circ}C$   |
| Storage temperature range             | $T_{STG}$                          |             |               |

**Notes:**

1. Reverse recovery test conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$ .
2. Measured at 1MHz and applied reverse voltage of 4.0V dc.
3. Mount on Cu-Pad Size 5mm x 5mm on PCB.

### Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

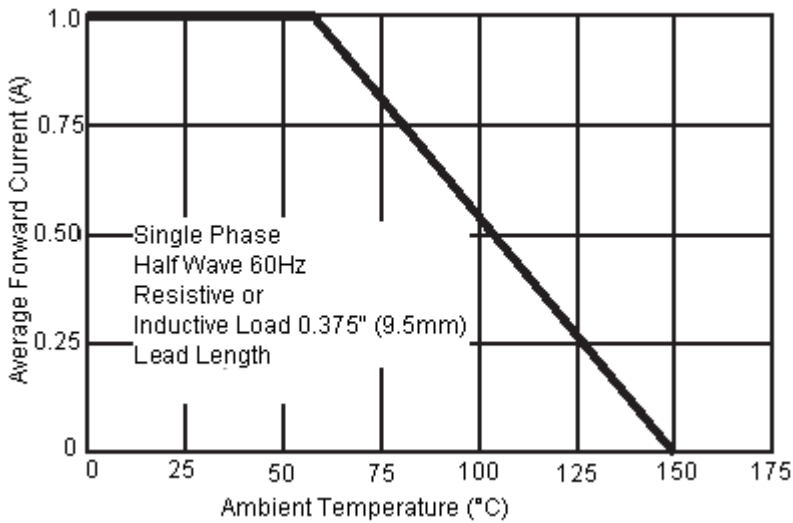


Figure 2 Maximum Non-Repetitive Forward Surge Current

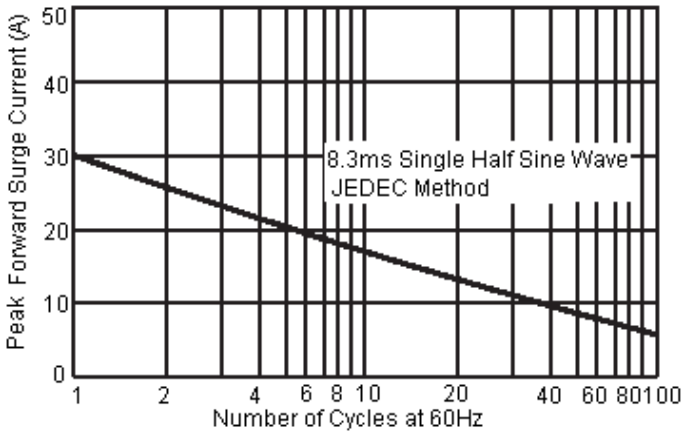


Figure 3 Typical Forward Characteristics

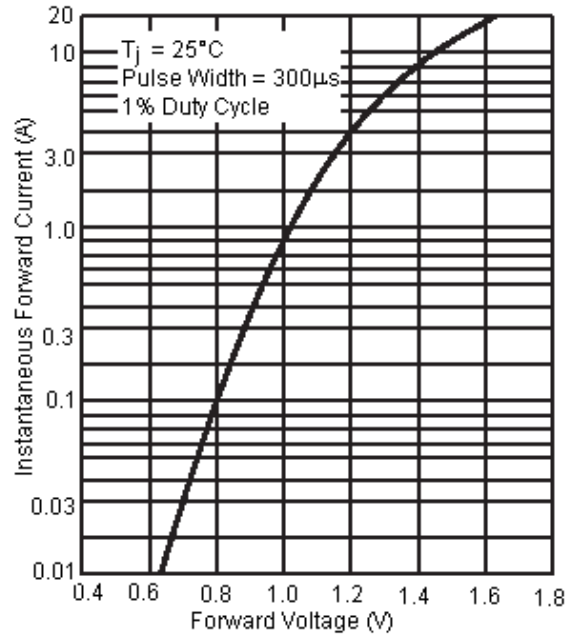


Figure 4 Typical Junction Capacitance

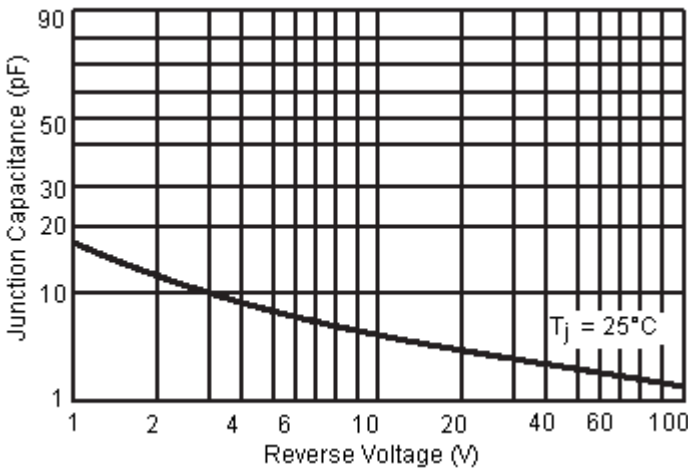
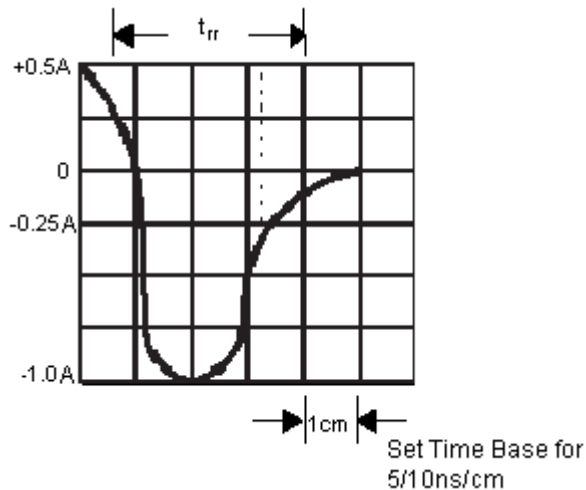
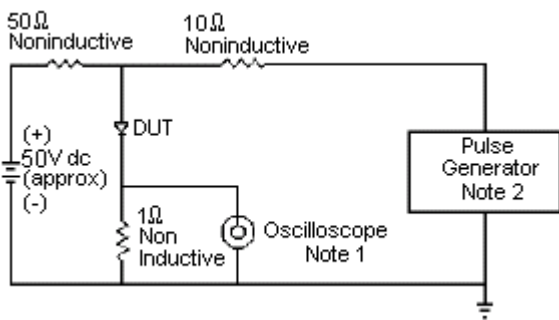


Figure 5 Reverse Recovery Time Characteristic and Test Circuit Diagram



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

# FR107

## Power Diodes - Fast Recovery



### Specifications

| $V_{rrm}$<br>maximum<br>(V) | $I_F$ (av)<br>(A) | $I_{FSM}$<br>(A) | $t_{rr}$<br>maximum<br>(ns) | $V_F$<br>(V)<br>at $I_F = 1A$ | Length | Diameter | Package | Part Number |
|-----------------------------|-------------------|------------------|-----------------------------|-------------------------------|--------|----------|---------|-------------|
| 1000                        | 1                 | 150              | 30                          | 1.3                           | 5.2    | 2.7      | DO-41   | FR107       |

Dimensions : Millimetres

## Notes:

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