

| FR101 THRU FR107   |  |
|--|--|
| 1.0 AMP. Fast Recovery Rectifiers  |  |
| <p><b>Features</b></p> <ul style="list-style-type: none"> <li>• Low forward voltage drop</li> <li>• High current capability</li> <li>• High reliability</li> <li>• High surge current capability</li> </ul>  | <p>Voltage Range<br/>50 to 1000 Volts<br/>Current<br/>1.0 Ampere</p> <p><b>DO-41</b></p> |
| <p><b>Mechanical Data</b></p> <ul style="list-style-type: none"> <li>• Cases: Molded plastic</li> <li>• Epoxy: UL 94V-0 rate flame retardant</li> <li>• Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed</li> <li>• Polarity: Color band denotes cathode end</li> <li>• High temperature soldering guaranteed: 250°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension</li> <li>• Weight: 0.34 gram</li> </ul> | <p>Dimensions in inches and (millimeters)</p>  |

### 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%

| Symbols   | FR101       | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | Units    |
|---|-------------|-------|-------|-------|-------|-------|-------|----------|
| Maximum Recurrent Peak Reverse Voltage  | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V        |
| Maximum RMS Voltage   | 35          | 70    | 140   | 280   | 420   | 560   | 700   | V        |
| Maximum DC Blocking Voltage   | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V        |
| Maximum Average Forward Rectified Current<br>.375" (9.5mm) Lead Length @ T <sub>A</sub> = 55°C            | 1.0         |       |       |       |       |       |       | A        |
| Peak Forward Surge Current, 8.3 ms Single<br>Half Sine-wave Superimposed on Rated Load<br>(JEDEC method)  | 30          |       |       |       |       |       |       | A        |
| Maximum Instantaneous Forward Voltage<br>@ 1.0A   | 1.2         |       |       |       |       |       |       | V        |
| Maximum DC Reverse Current @ T <sub>A</sub> =25°C<br>at Rated DC Blocking Voltage @ T <sub>A</sub> =100°C | 5.0<br>100  |       |       |       |       |       |       | uA<br>uA |
| Maximum Reverse Recovery Time ( Note 1 )  | 150         |       |       | 250   |       | 500   |       | nS       |
| Typical Junction Capacitance ( Note 2 )   | 15          |       |       |       |       |       |       | pF       |
| Operating Temperature Range T <sub>J</sub>  | -65 to +125 |       |       |       |       |       |       | °C       |
| Storage Temperature Range 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 D.C.

## RATINGS AND CHARACTERISTIC CURVES (FR101 THRU FR107)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

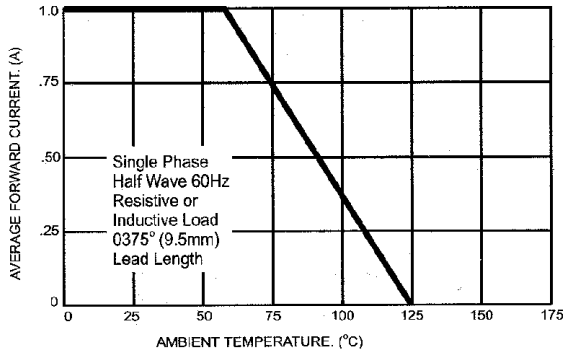


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

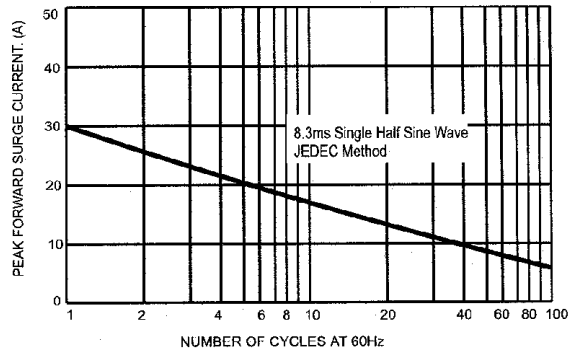


FIG.3- TYPICAL FORWARD CHARACTERISTICS

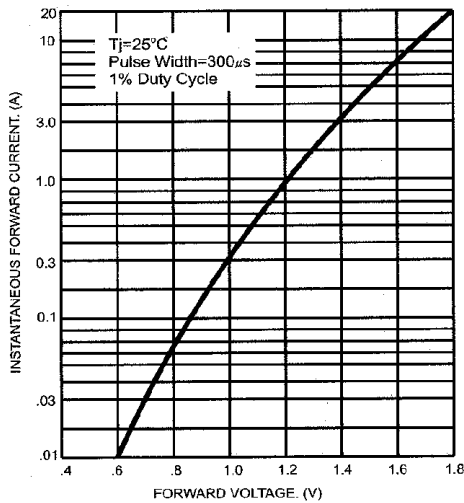


FIG.4- TYPICAL JUNCTION CAPACITANCE

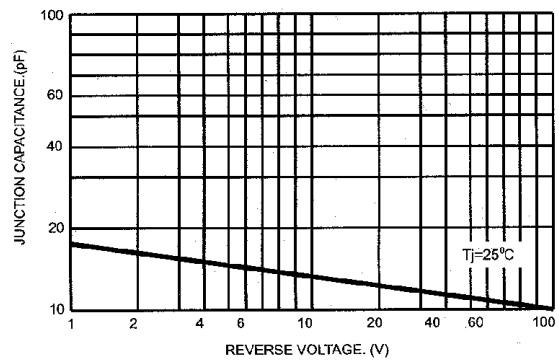
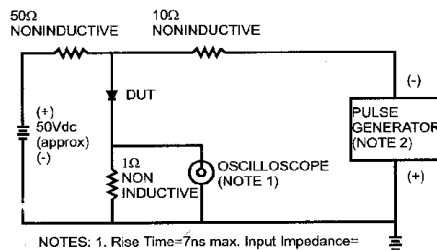


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance= 50 ohms

