

# FR101 THRU FR107

## 1.0 AMP FAST RECOVERY RECTIFIERS

### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.34 grams

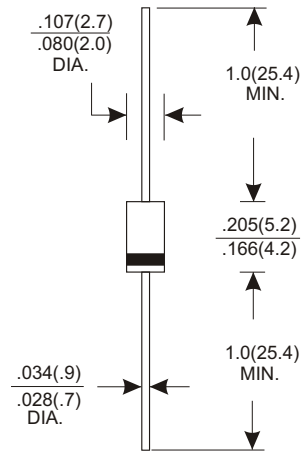
### VOLTAGE RANGE

50 to 1000 Volts

### CURRENT

1.0 Ampere

DO-41



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| TYPE NUMBER   | 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 at Ta=75°C                      | 1.0        |       |       |       |       |       |       | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 30         |       |       |       |       |       |       | A     |
| Maximum Instantaneous Forward Voltage at 1.0A   | 1.3        |       |       |       |       |       |       | V     |
| Maximum DC Reverse Current Ta=25°C  | 5.0        |       |       |       |       |       |       | μA    |
| at Rated DC Blocking Voltage Ta=100°C   | 100        |       |       |       |       |       |       | μA    |
| Maximum Reverse Recovery Time (Note 1)  | 150        |       |       |       | 250   | 500   |       | nS    |
| Typical Junction Capacitance (Note 2)   | 15         |       |       |       |       |       |       | pF    |
| Operating and Storage Temperature Range Tj, Tstg  | -65 — +150 |       |       |       |       |       |       | °C    |

#### NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

# RATING AND CHARACTERISTIC CURVES (FR101 THRU FR107)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

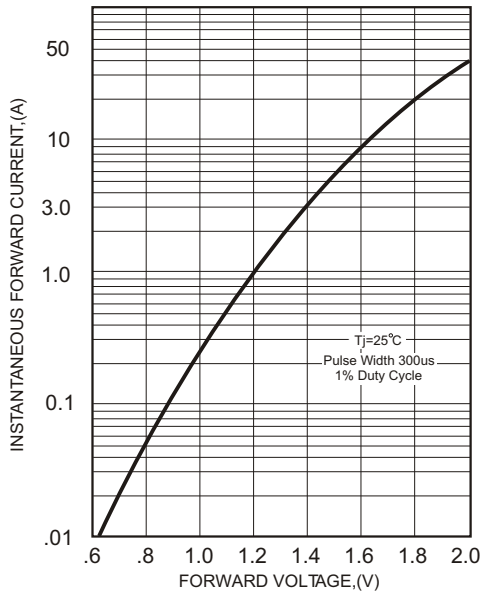


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

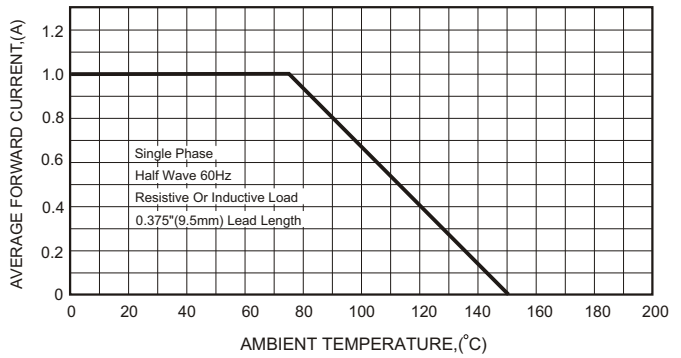


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

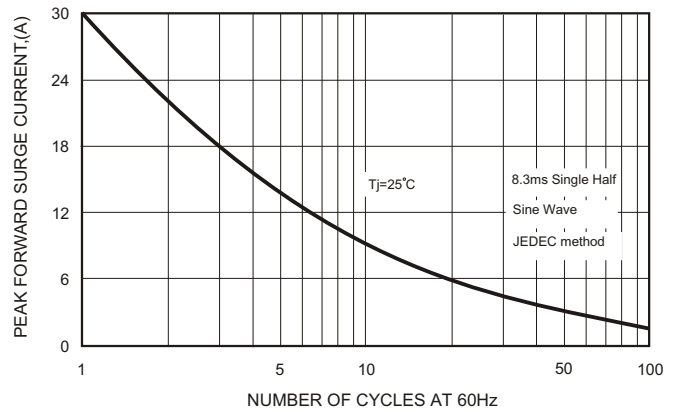
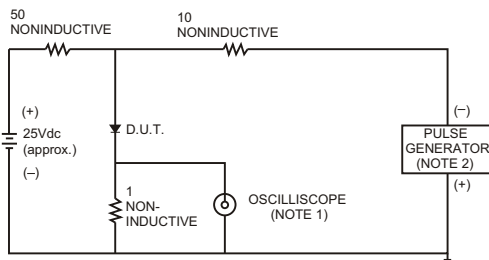


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

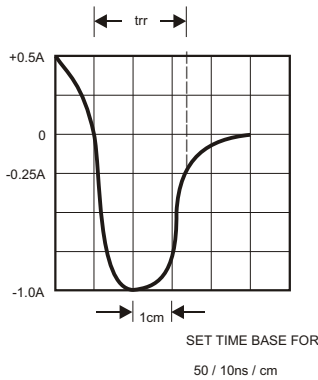


FIG.5-TYPICAL JUNCTION CAPACITANCE

