



## FAST RECOVER RECTIFIER

FR151 THRU FR157

VOLTAGE RANGE  
CURRENT

50 to 1000 Volts  
1.5 Ampere

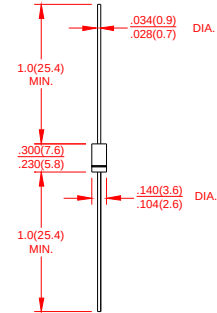
### FEATURES

- Low coat construction
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 secods/.375"(9.5mm)lead length at 5 lbs(2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33 grams

DO-15



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

|                                                                                                        |                         | SYMBOLS           | FR<br>151     | FR<br>152 | FR<br>153 | FR<br>154 | FR<br>155 | FR<br>156 | FR<br>157 | UNITS |
|--------------------------------------------------------------------------------------------------------|-------------------------|-------------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                |                         | V <sub>RRM</sub>  | 50            | 100       | 200       | 400       | 600       | 800       | 1000      | Volts |
| Maximum RMS Voltage                                                                                    |                         | V <sub>RMS</sub>  | 35            | 75        | 140       | 280       | 420       | 560       | 700       | Volts |
| Maximum DC Blocking Voltage                                                                            |                         | V <sub>DC</sub>   | 50            | 100       | 200       | 400       | 600       | 800       | 1000      | Volts |
| Maximum Average Forward Rectified Current<br>0.375”(9.5mm) lead length at T <sub>A</sub> = 75 °C       |                         | I <sub>(AV)</sub> | 1.5           |           |           |           |           |           |           | Amp   |
| Peak Forward Surge Current<br>8.3mS single half sine wave superimposed on<br>rated load (JEDEC method) |                         | I <sub>FSM</sub>  | 60            |           |           |           |           |           |           | Amps  |
| Maximum Instantaneous Forward Voltage @ 1.5A                                                           |                         | V <sub>F</sub>    | 1.3           |           |           |           |           |           |           | Volts |
| Maximum DC Reverse Current at Rated<br>DC Blocking Voltage                                             | T <sub>A</sub> = 25 °C  | I <sub>R</sub>    | 5.0           |           |           |           |           |           |           | μA    |
|                                                                                                        | T <sub>A</sub> = 100 °C |                   | 200           |           |           |           |           |           |           |       |
| Maximum Reverse Recovery Time (Note 3) T <sub>J</sub> =25 °C                                           |                         | trr               | 150           |           |           |           | 250       | 500       |           | ns    |
| Typical Junction Capacitance (Note 1)                                                                  |                         | C <sub>J</sub>    | 25            |           |           |           |           |           |           | pF    |
| Typical Thermal Resistance (Note 2)                                                                    |                         | R <sub>θJA</sub>  | 50            |           |           |           |           |           |           | °C/W  |
| Operating Junction Temperature Range                                                                   |                         | T <sub>J</sub>    | (-55 to +150) |           |           |           |           |           |           | °C    |
| Storage Temperature Range                                                                              |                         | T <sub>STG</sub>  | (-55 to +150) |           |           |           |           |           |           | °C    |

#### Notes:

- 1.Measured at 1.0MHz and Applied Reverse Voltage of 4.0Volts.
- 2 Thermal Resistance from junction to Ambient at .375"(9.5mm)lead length, P.C.board mounted.
- 3.Reverse Recovery Test Conditions: $I_f = 0.5\text{A}$ ,  $I_r = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$

## RATING AND CHARACTERISTIC CURVES FR151 THRU FR157

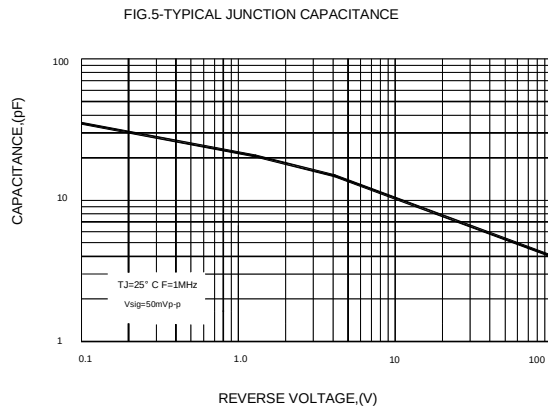
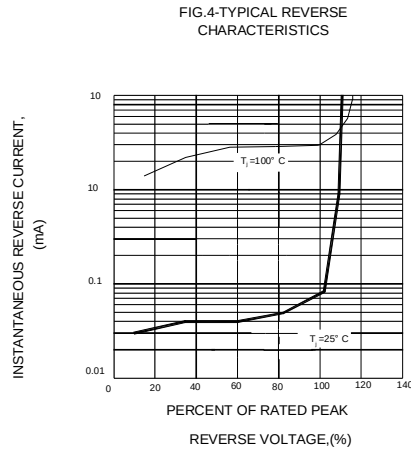
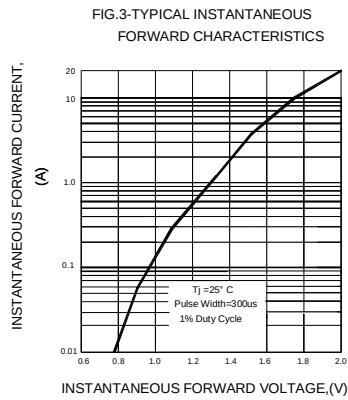
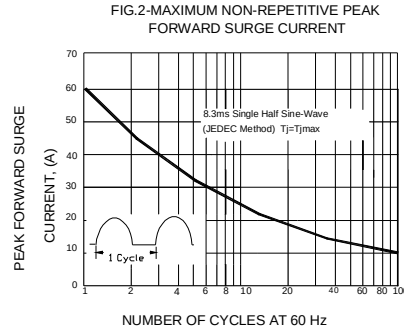
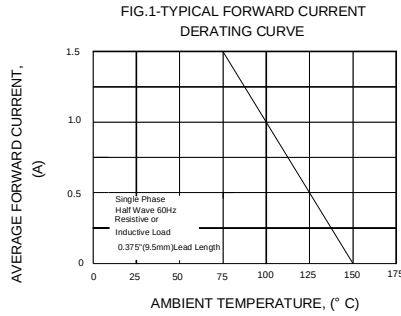
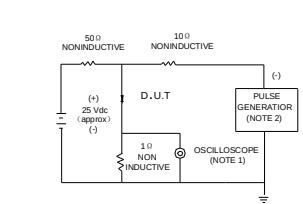


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

