



# FR201 THRU FR207

## Fast Recovery Rectifiers

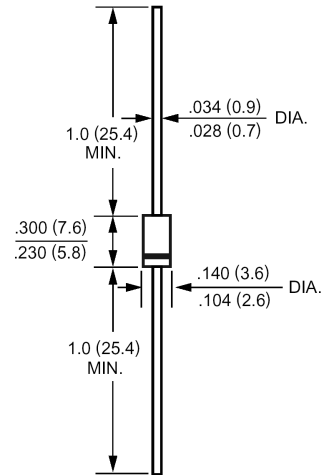
### FEATURES

- High current capability
- 2.0 ampere operation at  $T_A=55$  with no thermal runaway.
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage.

### MECHANICAL DATA

Case: Molded plastic, DO-15  
 Epoxy: UL 94V-O rate flame retardant  
 Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed  
 Polarity: Color band denotes cathode end  
 Mounting position: Any  
 Weight: 0.015ounce, 0.4gram

### DO-15



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

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

|   | Symbols         | FR201       | FR202 | FR203 | FR204 | FR205 | FR206 | FR207 | Units |
|---|-----------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | Volts |
| Maximum RMS Voltage   | $V_{RMS}$       | 35          | 70    | 140   | 280   | 420   | 560   | 700   | Volts |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | Volts |
| Maximum Average Forward Rectified Current<br>.375"(9.5mm) Lead Length at $T_A=55$                       | $I_{AV}$        | 2.0         |       |       |       |       |       |       | Amp   |
| Peak Forward Surge Current,<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method) | $I_{FSM}$       | 60          |       |       |       |       |       |       | Amp   |
| Maximum Forward Voltage<br>at 2.0A DC and 25  | $V_F$           | 1.3         |       |       |       |       |       |       | Volts |
| Maximum Reverse Current at $T_A=25$<br>at Rated DC Blocking Voltage $T_A=100$                           | $I_R$           | 5.0<br>500  |       |       |       |       |       |       | uAmp  |
| Typical Junction Capacitance (Note 1)   | $C_J$           | 35          |       |       |       |       |       |       | pF    |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JA}$ | 22          |       |       |       |       |       |       | /W    |
| Maximum Reverse Recovery Time (Note 3)  | $T_{RR}$        | 150         |       |       | 250   |       | 500   |       | nS    |
| Operating and Storage Temperature Range   | $T_J, T_{stg}$  | -55 to +125 |       |       |       |       |       |       |       |

### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal Resistance From Junction to Ambient 0.375"(9.5mm) lead length P.C.B. Mounted.
- 3- Reverse Recovery Test Conditions :  $I_F=.5A$  ,  $I_R=1A$  ,  $I_{RR}=.25A$ .



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### RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

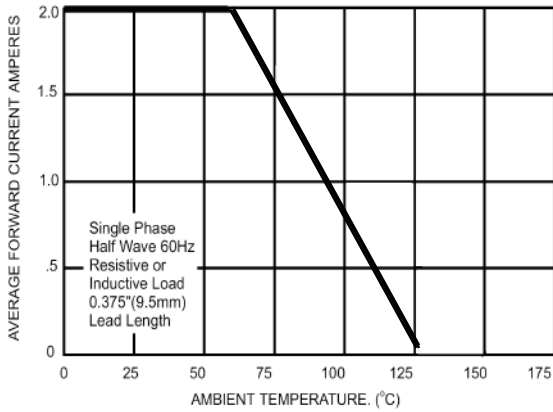


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

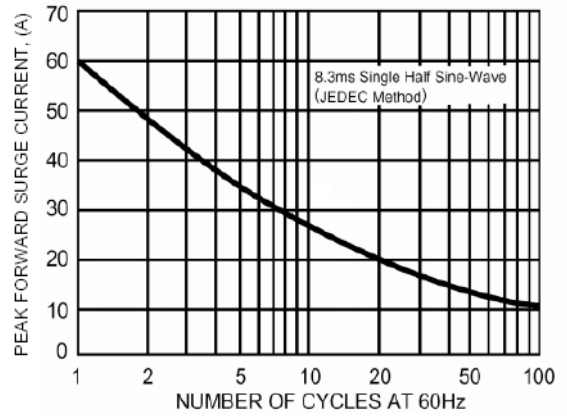


FIG.3- TYPICAL FORWARD CHARACTERISTICS

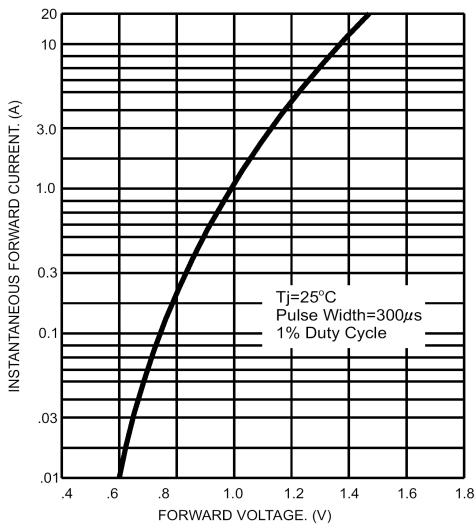


FIG.4- TYPICAL JUNCTION CAPACITANCE

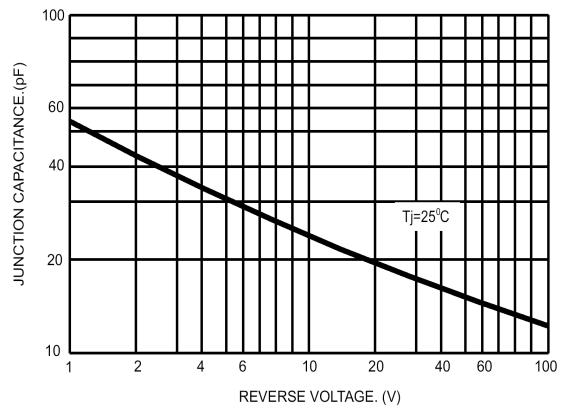
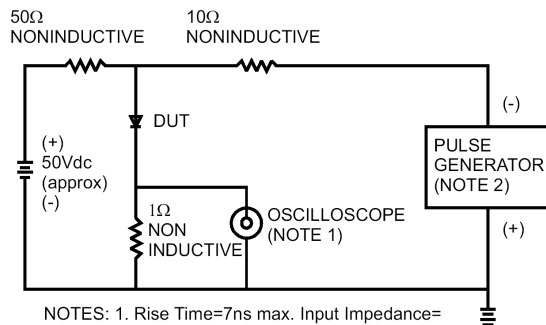


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

