



# FR301G THRU FR307G

## 3.0 AMPS. Glass Passivated Fast Recovery Rectifiers



Voltage Range  
50 to 1000 Volts  
Current  
3.0 Amperes

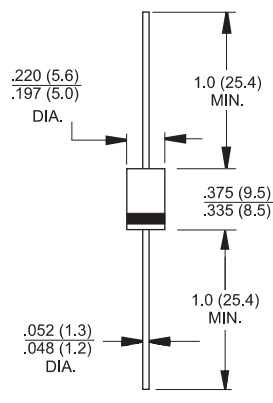
### Features

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

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 1.2 grams

### DO-201AD



Dimensions in inches and (millimeters)

### 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%

| Type Number  | Symbol          | FR          | FR   | FR   | FR   | FR   | FR   | FR   | Units              |
|--|-----------------|-------------|------|------|------|------|------|------|--------------------|
|  |                 | 301G        | 302G | 303G | 304G | 305G | 306G | 307G |                    |
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$       | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                  |
| Maximum RMS Voltage  | $V_{RMS}$       | 35          | 70   | 140  | 280  | 420  | 560  | 700  | V                  |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                  |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @ $T_A = 55^\circ C$            | $I_{(AV)}$      | 3.0         |      |      |      |      |      |      | A                  |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$       | 125         |      |      |      |      |      |      | A                  |
| Maximum Instantaneous Forward Voltage @ 3.0A   | $V_F$           | 1.3         |      |      |      |      |      |      | V                  |
| Maximum DC Reverse Current @ $T_A=25^\circ C$ at Rated DC Blocking Voltage @ $T_A=125^\circ C$     | $I_R$           | 5.0<br>100  |      |      |      |      |      |      | $\mu A$<br>$\mu A$ |
| Maximum Reverse Recovery Time ( Note 1 )   | $T_{rr}$        | 150         |      |      | 250  | 500  |      | nS   |                    |
| Typical Junction Capacitance ( Note 2 )  | $C_j$           | 30          |      |      |      |      |      |      | pF                 |
| Typical Thermal Resistance ( Note 3 )  | $R_{\theta JA}$ | 35          |      |      |      |      |      |      | $^\circ C/W$       |
| Operating Temperature Range  | $T_J$           | -65 to +150 |      |      |      |      |      |      | $^\circ C$         |
| Storage Temperature Range  | $T_{STG}$       | -65 to +150 |      |      |      |      |      |      | $^\circ C$         |

Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$   
2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.  
3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (FR301G THRU FR307G)

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

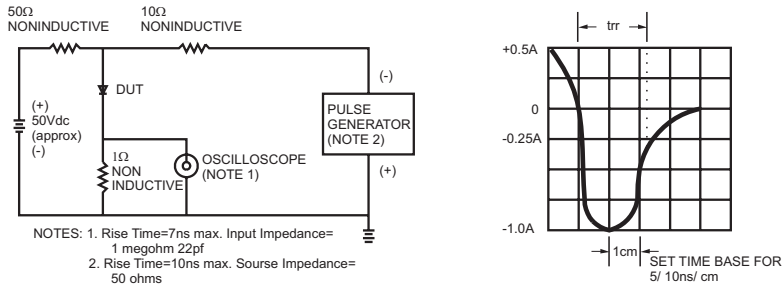


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

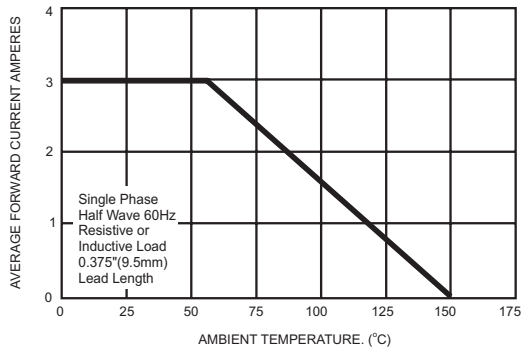


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

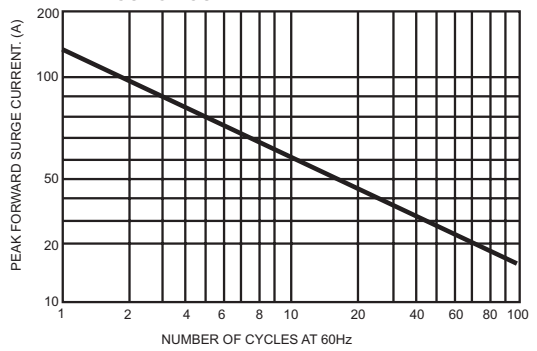


FIG.4- TYPICAL FORWARD CHARACTERISTICS

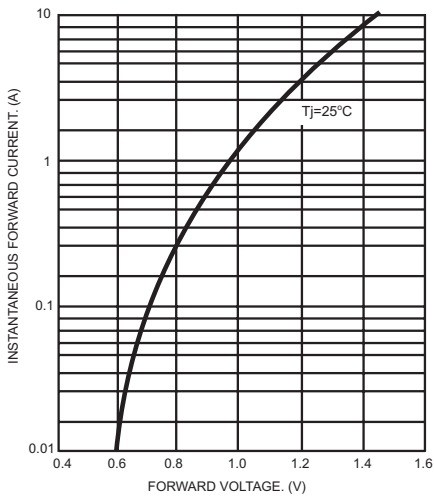


FIG.5- TYPICAL JUNCTION CAPACITANCE

