



FR301G thru FR307G

Glass Passivated Fast Recovery Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

Features

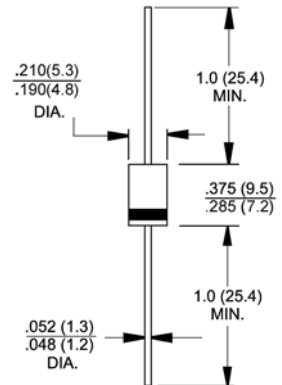
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability



DO-201AD

Mechanical Data

- ◆ Case: Molded plastic DO-201AD
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed:
250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◆ Mounting position: Any
- ◆ Weight: 0.042 ounce, 1.195 grams



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%

| Parameter | Symbols | FR301G | FR302G | FR303G | FR304G | FR305G | FR306G | FR307G | Units |
|---|------------|-------------|--------|--------|--------|--------|--------|--------|------------------|
| Maximum repetitive 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 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$ | $I_{(AV)}$ | 3.0 | | | | | | | Amps |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 125.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage @ 3.0A DC | V_F | 1.3 | | | | | | | Volts |
| Maximum DC reverse current at rated DC blocking voltage @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$ | I_R | 5.0 100 | | | | | | | μA |
| Maximum reverse recovery time (Note 1) | t_{rr} | 150 | | | 250 | | 500 | | nS |
| Typical junction capacitance (Note 2) | C_J | 80 | | | | | | | pF |
| Operating junction temperature range | T_J | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

- Notes:**
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

RATINGS AND CHARACTERISTIC CURVES

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

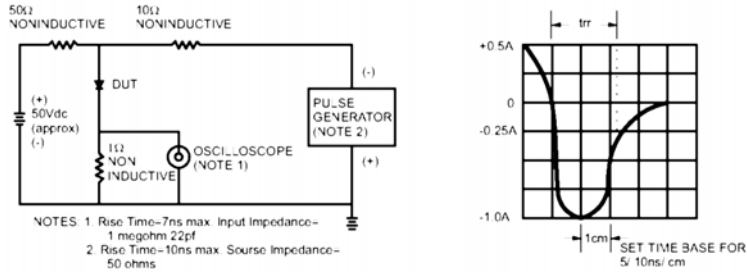


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

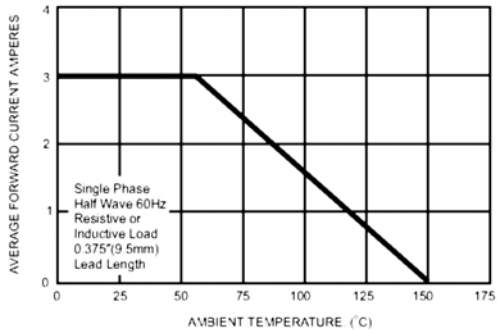


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

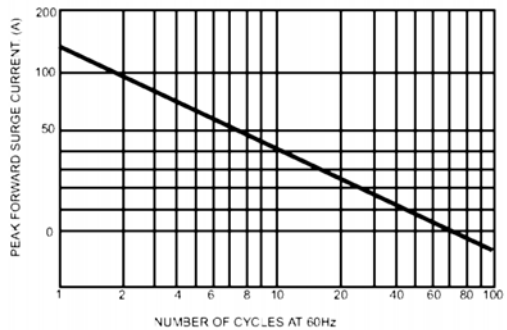


FIG.4- TYPICAL FORWARD CHARACTERISTICS

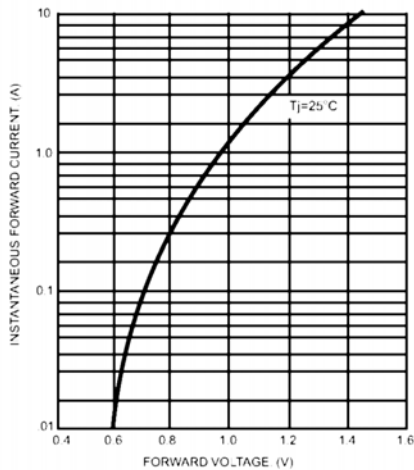


FIG.5- TYPICAL JUNCTION CAPACITANCE

