



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

**FR301G
THRU
FR307G**

TECHNICAL SPECIFICATIONS OF FAST RECOVERY GLASS PASSIVATED RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 3.0 Amperes

FEATURES

- * High reliability
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High switching capability
- * Glass passivated junction

MECHANICAL DATA

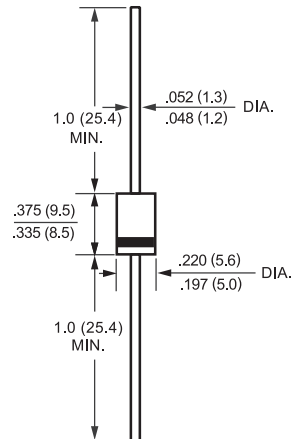
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 1.18 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.



DO-27



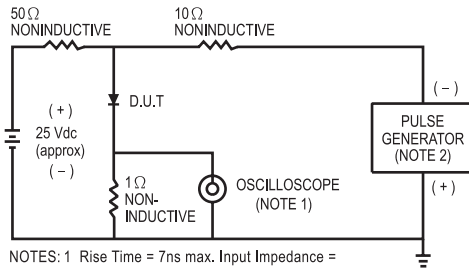
Dimensions in inches and (millimeters)

| | SYMBOL | FR301G | FR302G | FR303G | FR304G | FR305G | FR306G | FR307G | 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 at T _A = 55°C | I _O | 3.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 125 | | | | | | | Amps |
| Maximum Instantaneous Forward Voltage at 3.0A DC | V _F | 1.3 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25°C | I _R | 5.0 | | | | | | | uAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375*(9.5mm) lead length at T _L = 55°C | | 100 | | | | | | | uAmps |
| Maximum Reverse Recovery Time (Note 1) | t _{rr} | 150 | | | 250 | 500 | nSec | | |
| Typical Junction Capacitance (Note 2) | C _J | 50 | | | | | | | pF |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to + 150 | | | | | | | °C |

NOTES : 1. 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

RATING AND CHARACTERISTIC CURVES (FR301G THRU FR307G)

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



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

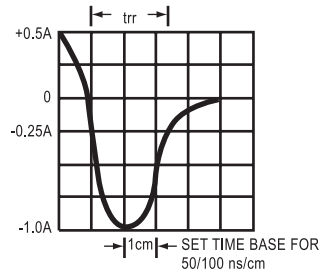


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

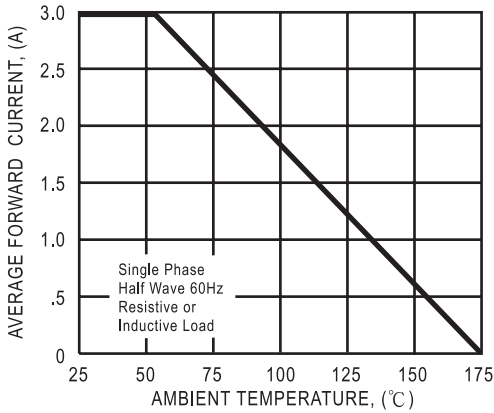


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

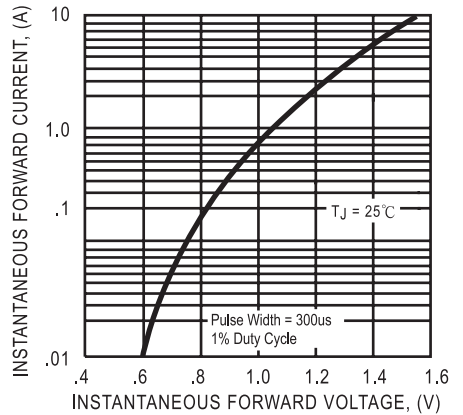


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

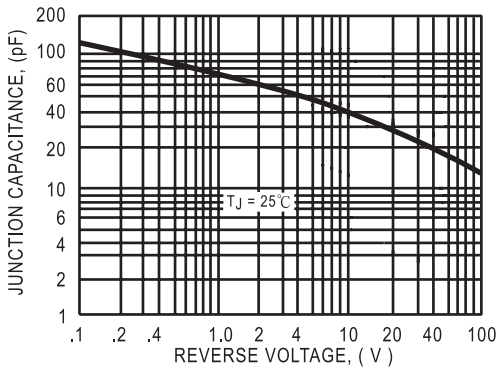


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

