# FR301G THRU FR307G

3.0AMP GLASS PASSIVATED FAST RECOVERY RECTIFIERS

GW



## FEATURES

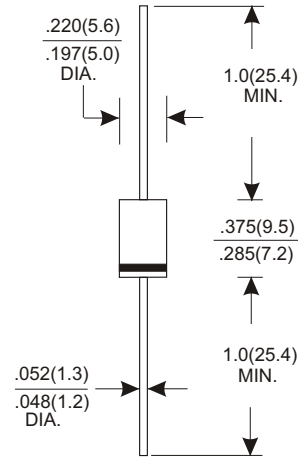
* Low forward voltage drop
* High current capability
* High reliability
* High surge current capability
* Glass passivated junction

## MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
* Polarity: Color band denotes cathode end
* Mounting position: Any

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
3.0 Ampere

**DO-27**




Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature uniess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| TYPE NUMBER | FR301G | FR302G | FR303G | FR304G | FR305G | FR306G | FR307G | UNITS |
|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at Ta=55°C | 3.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 125 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 3.0A | 1.3 | | | | | | | V |
| Maximum DC Reverse Current Ta=25°C | 5.0 | | | | | | | μA |
| at Rated DC Blocking Voltage Ta=100°C | 100 | | | | | | | μA |
| Maximum Reverse Recovery Time (Note 1) | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance (Note 2) | 60 | | | | | | | pF |
| Operating and Storage Temperature Range Tj, TSTG | -65 — +150 | | | | | | | °C |

**NOTES:**

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (FR301G THRU FR307G)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

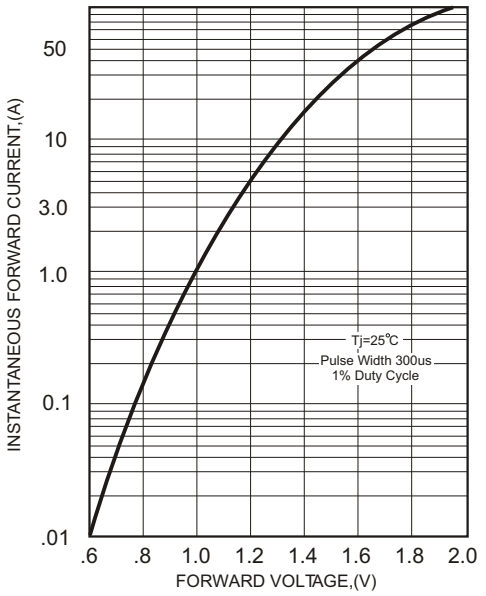



FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

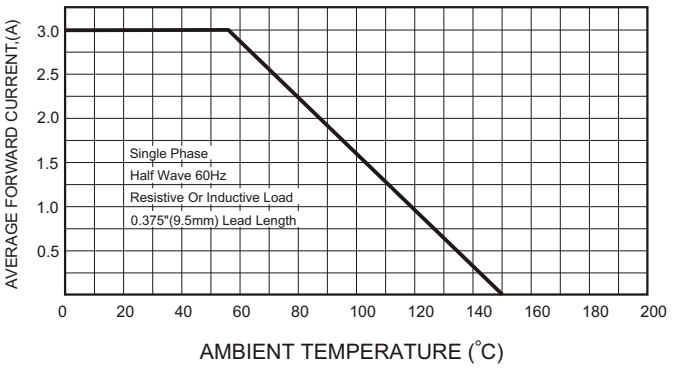
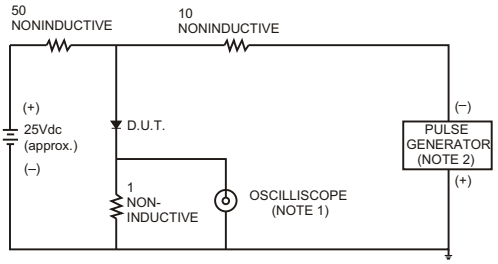



FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS




NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

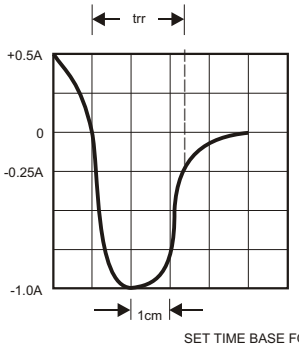



FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

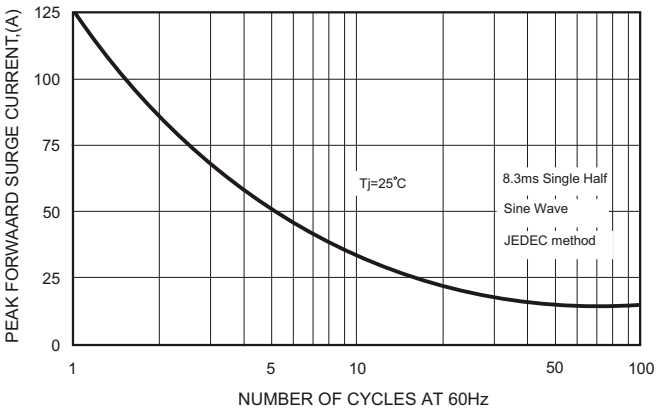



FIG.5-TYPICAL JUNCTION CAPACITANCE

