

# FRA1601G - FRA1607G

## 16.0 AMPS. Glass Passivated Fast Recovery Rectifiers TO-220AC

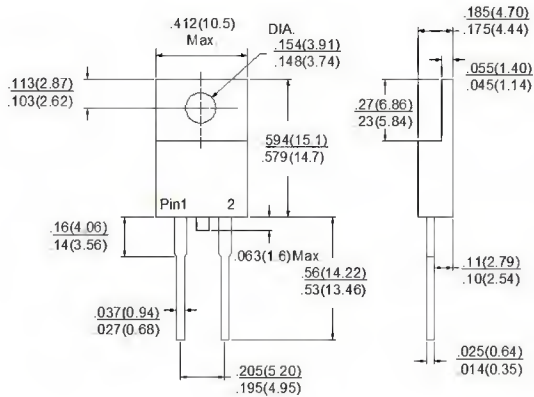


### Features

- ✧ Glass passivated chip junction.
- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

### Mechanical Data

- ✧ Cases: TO-220AC Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, Lead free. Leads solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ High temperature soldering guaranteed: 260 °C /10 seconds, 0.16", (4.06mm) from case.
- ✧ Mounting position: Any
- ✧ Weight: 2.24 grams



### Dimensions in inches and (millimeters)

### Marking Diagram



- FRA160XG = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

### 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	FRA 1601G	FRA 1602G	FRA 1603G	FRA 1604G	FRA 1605G	FRA 1606G	FRA 1607G	Units
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig. 1	I(AV)	16.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	IFSM	250							A
Maximum Instantaneous Forward Voltage @ 16.0A	VF	1.3							V
Maximum DC Reverse Current @ T <sub>C</sub> =25 °C at Rated DC Blocking Voltage @ T <sub>C</sub> =125 °C	IR	5.0 100							uA uA
Maximum Reverse Recovery Time ( Note 1)	Trr	150				250	500		nS
Typical Junction Capacitance ( Note 3 )	Cj	70							pF
Typical Thermal resistance ( Note 2 )	RθJC	2.5							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150							°C

- Notes:
1. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
  2. Thermal Resistance from Junction to Case Per Leg Mounted on Heatsink  
Size 2" x 3" x 0.25" Al-Plate.
  3. Measured at 1MHz and Applied Reverse Voltage of 4.0 Volts D.C.

## RATINGS AND CHARACTERISTIC CURVES (FRA1601G THRU FRA1607G)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

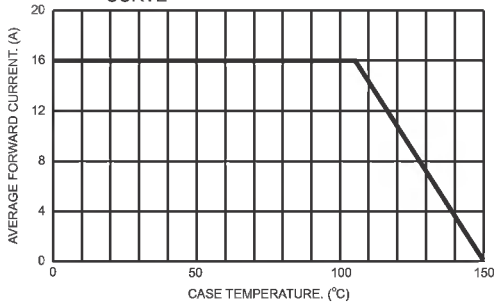


FIG. 2- TYPICAL REVERSE CHARACTERISTICS PER LEG

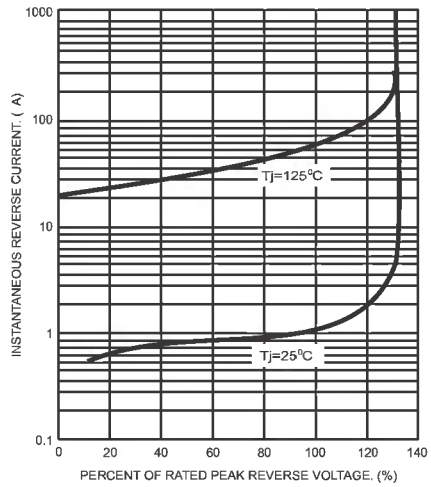


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

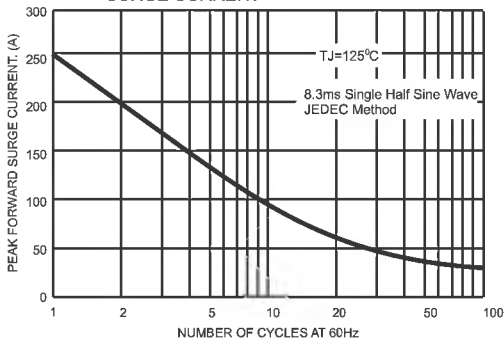


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

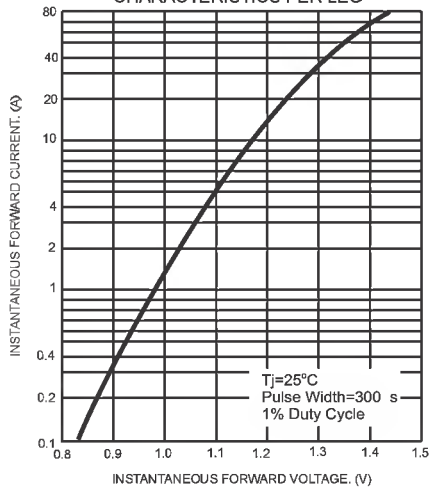


FIG. 4- TYPICAL JUNCTION CAPACITANCE

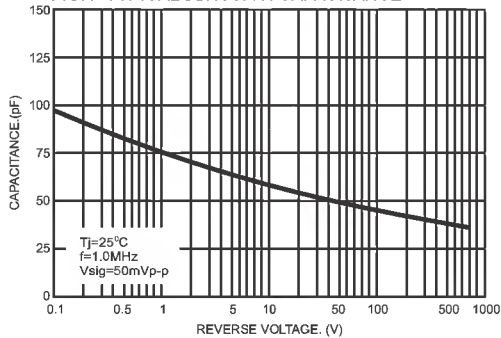


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

