

FRA1601G - FRA1607G

16.0 AMPS. Glass Passivated Fast Recovery Rectifiers

TO-220AC

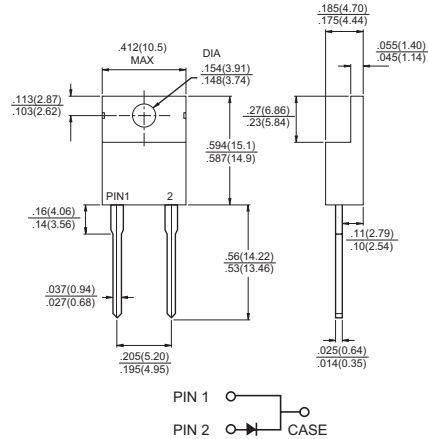


Features

- ✧ Glass passivated chip junction.
- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss

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)

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	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 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)	I _{FSM}	250							A
Maximum Instantaneous Forward Voltage @ 16.0A	V _F	1.3							V
Maximum DC Reverse Current @ T _C =25 °C at Rated DC Blocking Voltage @ T _C =125 °C	I _R	5.0 100							uA uA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	150				250	500		nS
Typical Junction Capacitance (Note 3)	C _j	70							pF
Typical Thermal resistance (Note 2)	R _{θJC}	2.5							°C/W
Operating and Storage Temperature Range	T _J ,T _{STG}	-65 to +150							°C

- Notes:
- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 - Thermal Resistance from Junction to Case Per Leg Mounted on Heatsink Size 2" x 3" x 0.25" Al-Plate.
 - 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

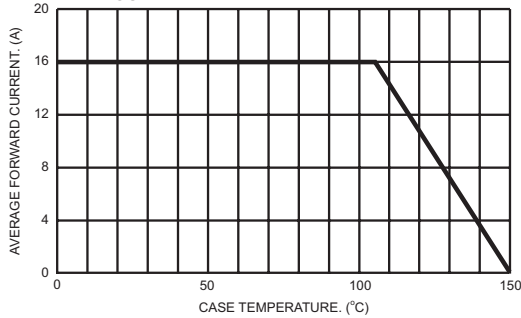


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

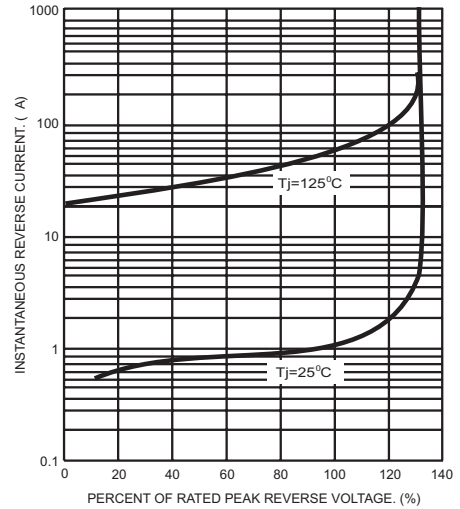


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

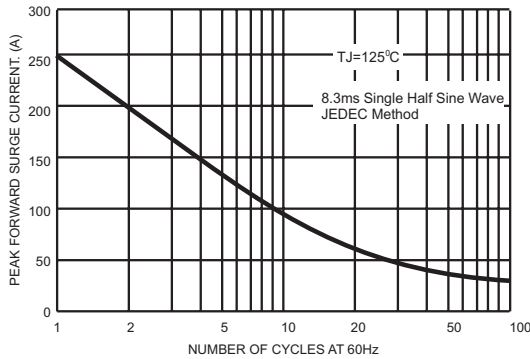


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

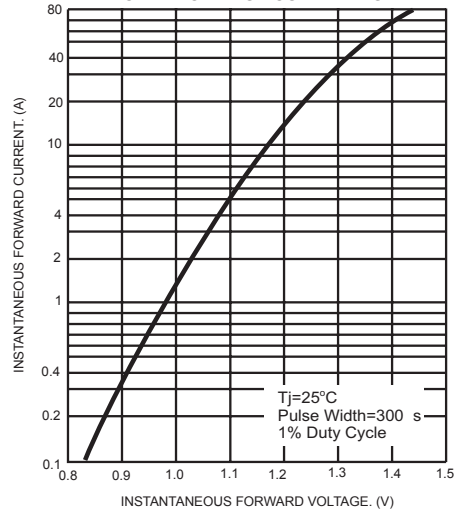


FIG.4- TYPICAL JUNCTION CAPACITANCE

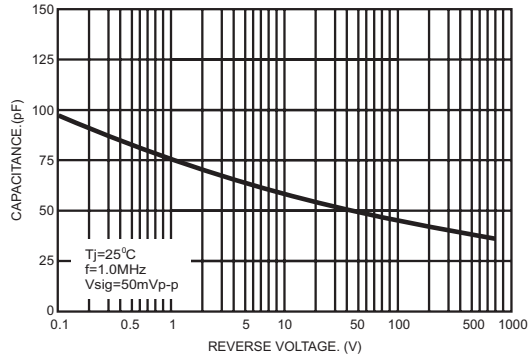
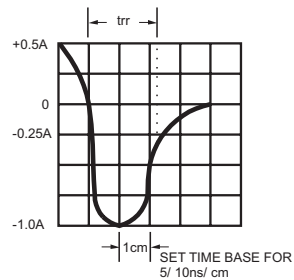
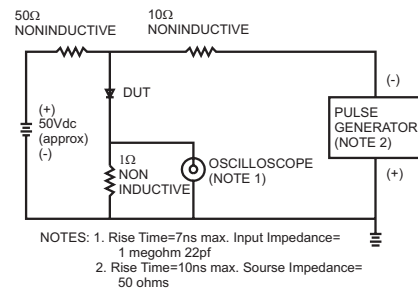


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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