

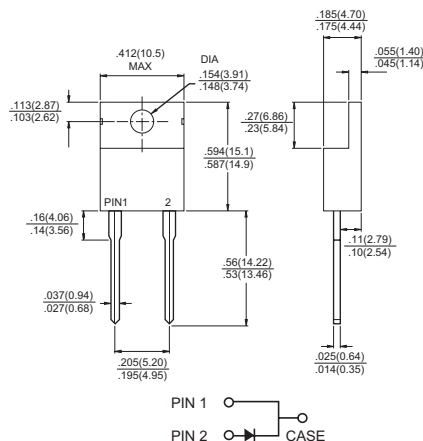


### Features

- ✦ 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 @ $T_C=25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_C=125\text{ }^\circ\text{C}$	$I_R$	5.0 100							 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 )	$R_{\theta JC}$	2.5							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150							$^\circ\text{C}$

- Notes:
1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
  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

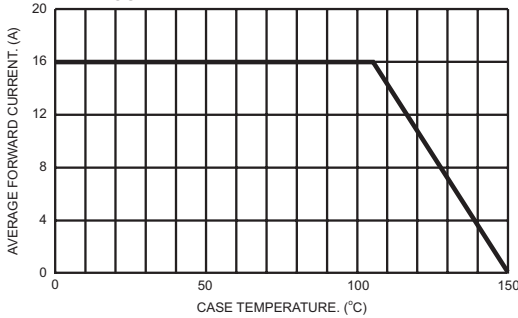


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

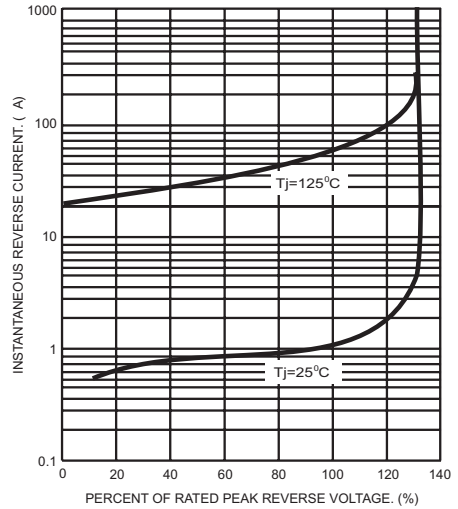


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

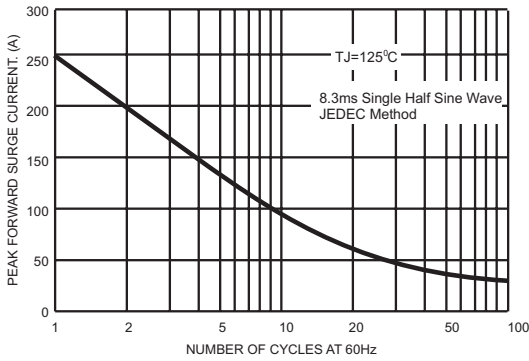


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

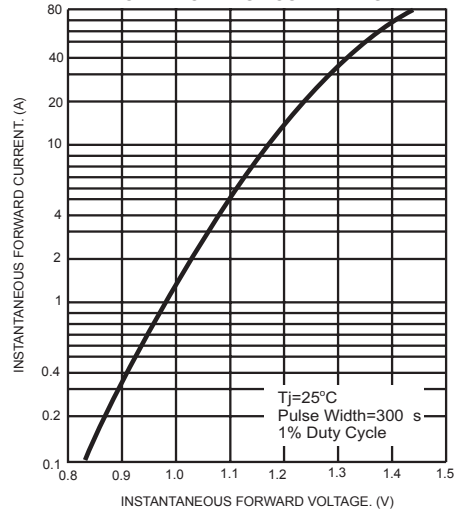


FIG.4- TYPICAL JUNCTION CAPACITANCE

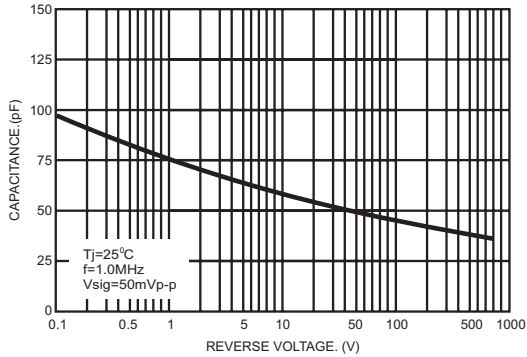


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

