



# FR601G THRU FR607G

6.0 AMPS. Glass Passivated Fast Recovery Rectifiers



Voltage Range  
50 to 1000 Volts  
Current  
6.0 Amperes

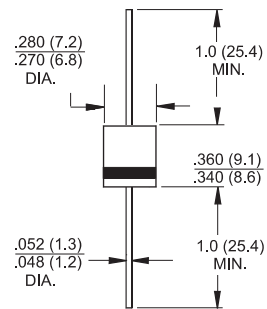
## Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

## Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375"(.9.5mm) lead lengths at 5 lbs.(2.3kg) tension
- ✧ Mounting position: Any
- ✧ Weight: 1.65 grams

### R-6



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	FR 601G	FR 602G	FR 603G	FR 604G	FR 605G	FR 606G	FR 607G	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 .375"(9.5mm) Lead Length @ $T_A = 55^\circ\text{C}$	$I_{(AV)}$	6.0							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 @ 6.0A	$V_F$	1.3							V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	$I_R$	5.0 200							$\mu\text{A}$ $\mu\text{A}$
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	150			250	500		nS	
Typical Junction Capacitance ( Note 2 )	$C_j$	65							pF
Typical Thermal Resistance	$R_{\theta JA}$	30							$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-65 to +150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

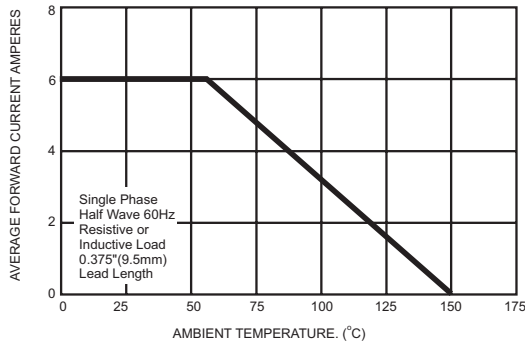
Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

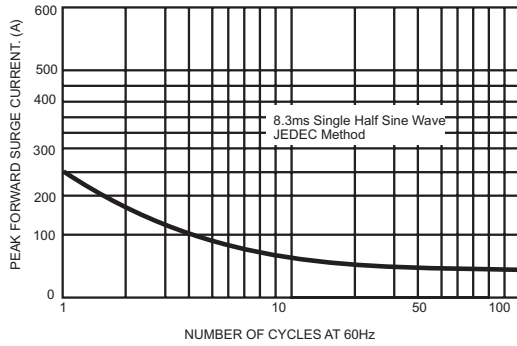
3. Mount on Cu-Pad Size 16mm x 16mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (FR601G THRU FR607G)

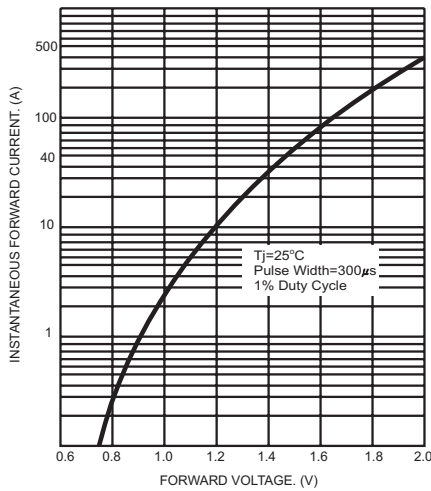
**FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE**



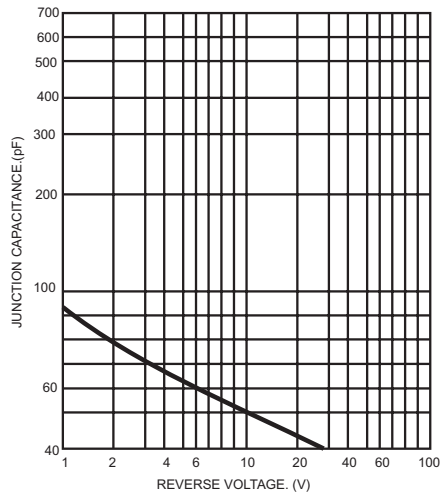
**FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



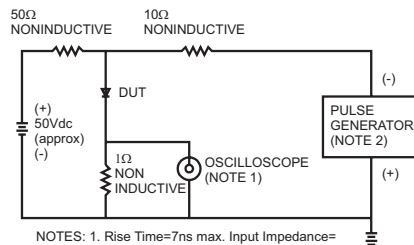
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



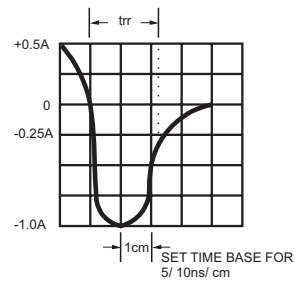
**FIG.4- TYPICAL JUNCTION CAPACITANCE**



**FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



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





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