

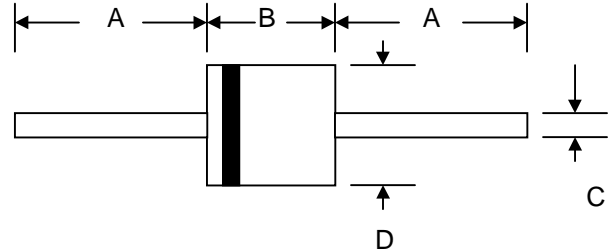


FR601 – FR607

6.0A FAST RECOVERY RECTIFIER

Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability



Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 2.1 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Epoxy: UL 94V-O rate flame retardant

R-6		
Dim	Min	Max
A	25.4	—
B	8.60	9.10
C	1.20	1.30
D	8.60	9.10
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	FR601	FR602	FR603	FR604	FR605	FR606	FR607	Unit
Peak Repetitive Reverse Voltage	V_{RRM}								
Working Peak Reverse Voltage	V_{RWM}	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V_R								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1)	I_o	6.0							A
@ $T_A = 55^\circ\text{C}$									
Non-Repetitive Peak Forward Surge Current	I_{FSM}	200							A
8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)									
Forward Voltage	V_{FM}	1.2							V
@ $I_F = 6.0\text{A}$									
Peak Reverse Current	I_{RM}	10							μA
@ $T_A = 25^\circ\text{C}$									
At Rated DC Blocking Voltage		200							
@ $T_A = 100^\circ\text{C}$									
Reverse Recovery Time (Note 2)	t_{rr}	150			250	500			nS
Typical Junction Capacitance (Note 3)	C_j	100							pF
Operating Temperature Range	T_j	-65 to +125							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150							$^\circ\text{C}$

*Glass passivated forms are available upon request

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case

2. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$. See figure 5.

3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

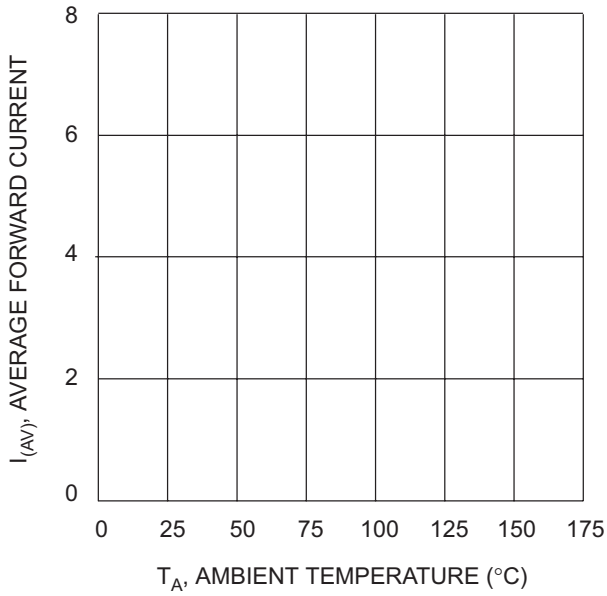


Fig. 1, Typical Forward Current Derating Curve

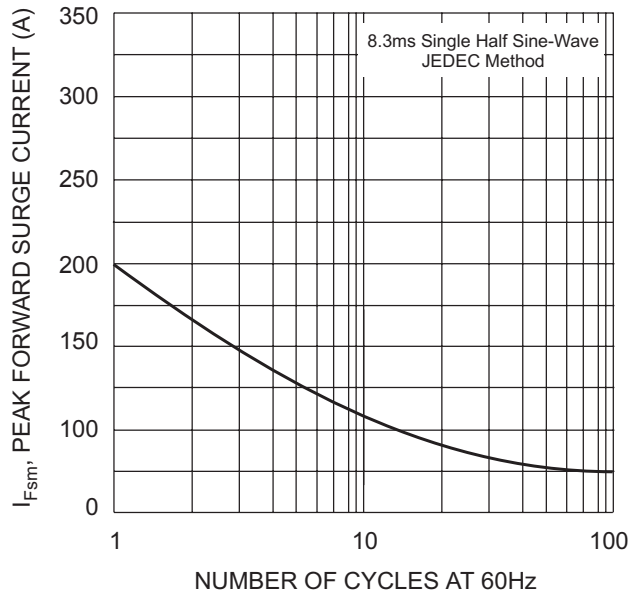


Fig. 2, Max Non-Repetitive Peak Surge Current

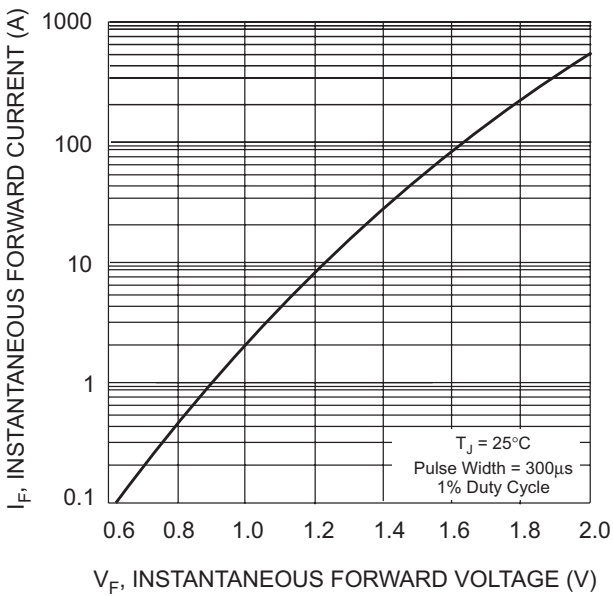


Fig. 3, Typical Instantaneous Forward Characteristics

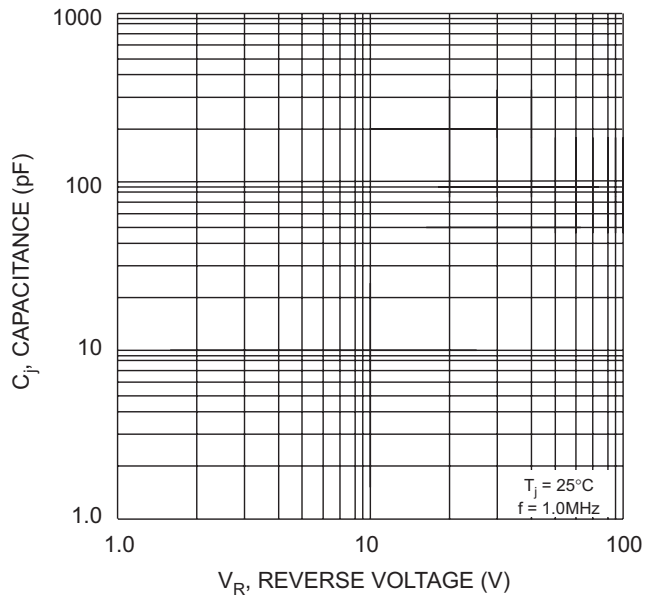
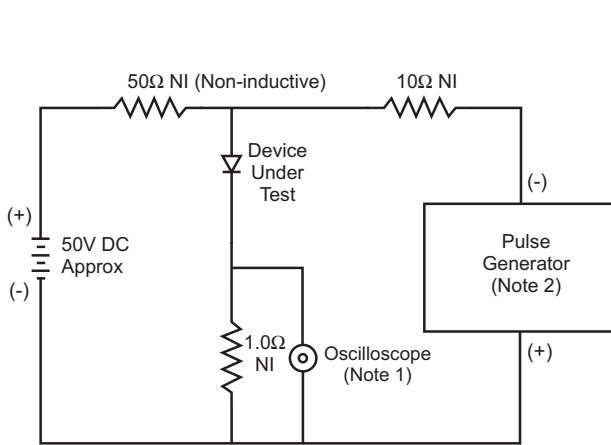


Fig. 4, Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

ORDERING INFORMATION

Product No.♦	Package Type	Shipping Quantity
FR601-T3	R-6	800/Tape & Reel
FR601	R-6	250 Units/Box
FR602-T3	R-6	800/Tape & Reel
FR602	R-6	250 Units/Box
FR603-T3	R-6	800/Tape & Reel
FR603	R-6	250 Units/Box
FR604-T3	R-6	800/Tape & Reel
FR604	R-6	250 Units/Box
FR605-T3	R-6	800/Tape & Reel
FR605	R-6	250 Units/Box
FR606-T3	R-6	800/Tape & Reel
FR606	R-6	250 Units/Box
FR607-T3	R-6	800/Tape & Reel
FR607	R-6	250 Units/Box

Products listed in **bold** are WTE **Preferred** devices.

♦T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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