



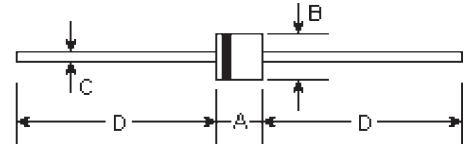
# FR601 THRU FR607

**FAST RECOVERY RECTIFIER**  
**Reverse Voltage - 50 to 1000 Volts**  
**Forward Current - 6.0 Amperes**

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Construction utilizes void-free molded plastic technique
- 6.0 ampere operation at  $T_A = 75^\circ\text{C}$  with no thermal runaway
- High temperature soldering guaranteed:  $250^\circ\text{C}/10$  seconds, 0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension

## R-6



## Mechanical Data

- **Case:** R-6 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.074 ounce, 2.1 grams

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.339	0.358	8.6	9.1	
B	0.339	0.358	8.6	9.1	φ
C	0.047	0.052	1.2	1.3	φ
D	1.000	-	25.40	-	

## Maximum Ratings and Electrical Characteristics @25°C unless otherwise specified

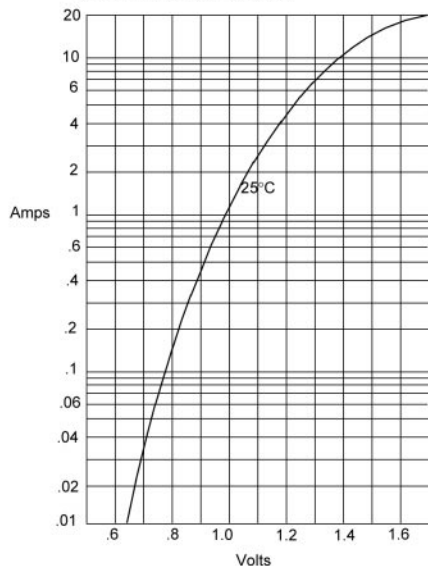
	Symbols	FR601	FR602	FR603	FR604	FR605	FR606	FR607	Units
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Average forward rectified current at T <sub>A</sub> =75 °C	I <sub>(AV)</sub>	6.0							Amps
Peak forward surge current 8.3mS single half sine-wave (MIL-STD-750D 4066 method)	I <sub>FSM</sub>	300.0							Amps
Maximum instantaneous forward voltage at I <sub>FM</sub> =6.0A, T <sub>A</sub> =25 °C (Note 3)	V <sub>F</sub>	1.3							Volts
Maximum DC reverse current at rated DC blocking voltage T <sub>A</sub> =25 °C T <sub>A</sub> =55 °C	I <sub>R</sub>	10.0 150.0							μ A
Maximum reverse recovery time (Note 1)	T <sub>rr</sub>	150				250	500		nS
Typical junction capacitance (Note 2)	C <sub>J</sub>	150.0							p F
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150							°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 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Pulse test: pulse width 300uSec, Duty cycle 1%

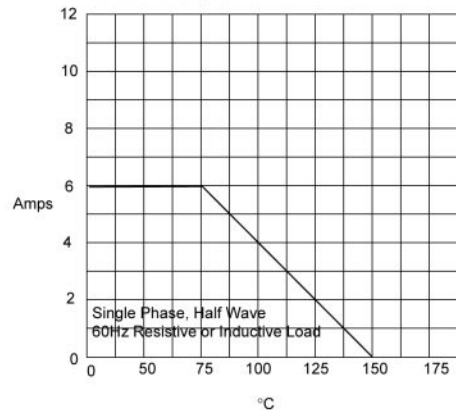
## RATINGS AND CHARACTERISTIC CURVES

Figure 1  
Typical Forward Characteristics



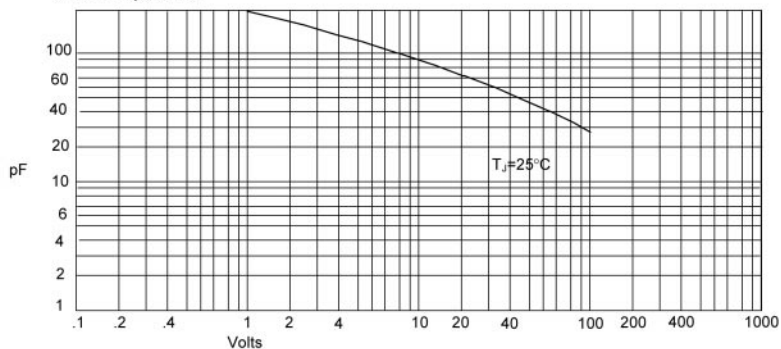
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance



Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

## RATINGS AND CHARACTERISTIC CURVES

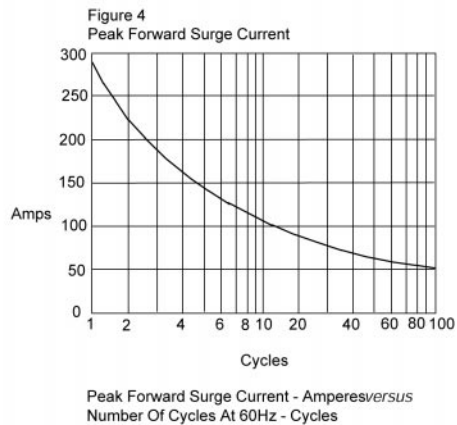
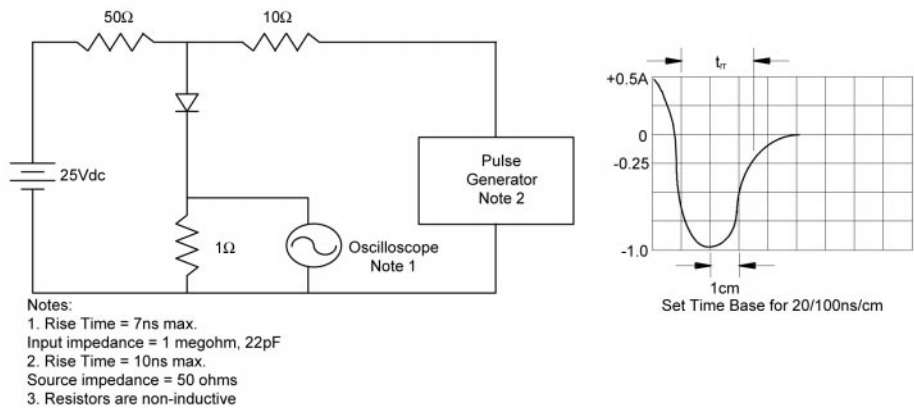


Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram



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