



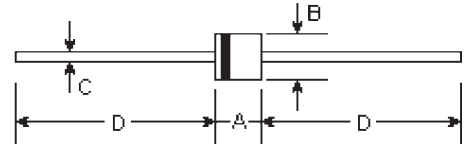
# FR601 THRU FR607

**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

DIM	DIMENSIONS				Note
	inches		mm		
	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

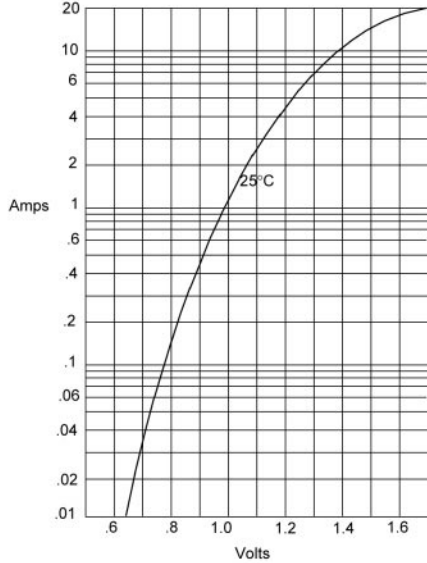
	Symbols	FR601	FR602	FR603	FR604	FR605	FR606	FR607	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Average forward rectified current at $T_A=75^\circ\text{C}$	$I_{(AV)}$	6.0							Amps
Peak forward surge current 8.3mS single half sine-wave (MIL-STD-750D 4066 method)	$I_{FSM}$	300.0							Amps
Maximum instantaneous forward voltage at $I_{FM}=6.0\text{A}$ , $T_A=25^\circ\text{C}$ (Note 3)	$V_F$	1.3							Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=55^\circ\text{C}$	$I_R$	10.0 150.0							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	150			250	500			nS
Typical junction capacitance (Note 2)	$C_J$	150.0							$\mu\text{F}$
Operating and storage temperature range	$T_J, T_{STG}$	-65 to +150							$^\circ\text{C}$

**Notes:**

- (1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{tr}=0.25\text{A}$
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (3) Pulse test: pulse width 300uSec, Duty cycle 1%

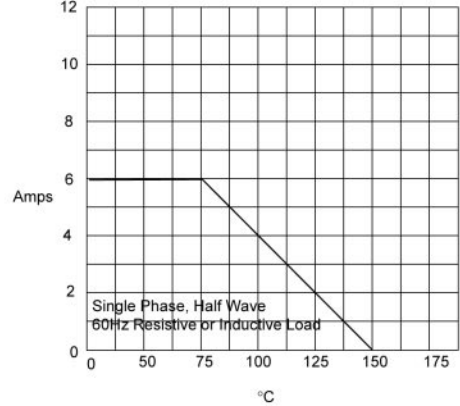
# RATINGS AND CHARACTERISTIC CURVES

Figure 1  
Typical Forward Characteristics



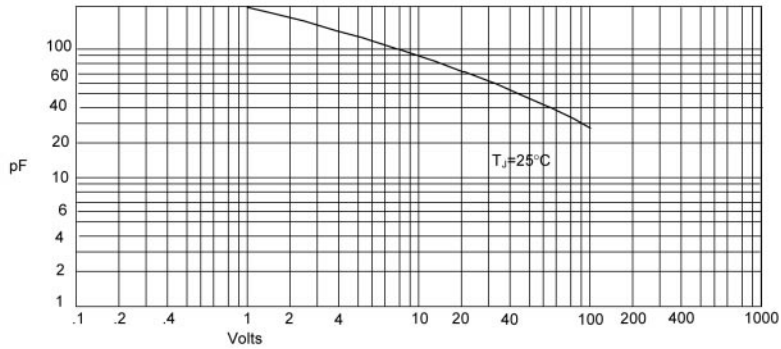
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

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

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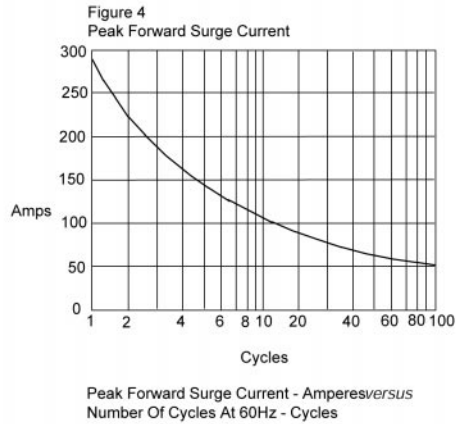


Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram

