



# FR601G THRU FR607G

## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

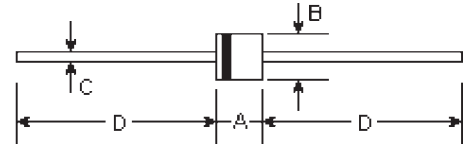
Reverse Voltage - 50 to 1000 Volts

Forward Current - 6.0 Amperes

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame retardant epoxy molding compound
- Glass passivated junction in R-6 package
- 6.0 ampere operation at  $T_A = 75^\circ\text{C}$  with no thermal runaway
- Fast switching for high efficiency

### R-6



### Mechanical Data

- **Case:** Molded plastic, R-6
- **Terminals:** Axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.074 ounce, 2.105 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

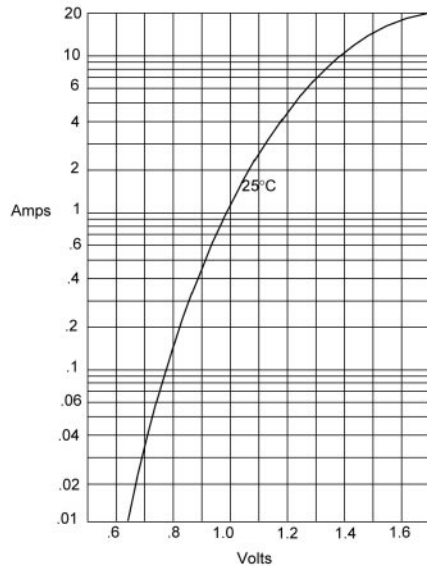
|                                                                                                            | Symbols                           | FR 601G       | FR 602G | FR 603G | FR 604G | FR 605G | FR 606G | FR 607G | Units |
|------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------|---------|---------|---------|---------|---------|---------|-------|
| 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                                                     | I <sub>FSM</sub>                  | 300.0         |         |         |         |         |         |         | Amps  |
| Maximum instantaneous forward voltage<br>I <sub>FM</sub> =6.0A; T <sub>A</sub> =25°C (Note 1)              | V <sub>F</sub>                    | 1.3           |         |         |         |         |         |         | Volts |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>T <sub>A</sub> =25°C<br>T <sub>A</sub> =55°C | I <sub>R</sub>                    | 10.0<br>150.0 |         |         |         |         |         |         | μ A   |
| Maximum reverse recovery time<br>at I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A     | T <sub>rr</sub>                   | 150           |         |         |         | 250     | 500     |         | nS    |
| Typical junction capacitance<br>Measured at 1.0MHz,<br>V <sub>R</sub> =4.0V                                | C <sub>J</sub>                    | 150           |         |         |         |         |         |         | p F   |
| Operating and storage temperature range                                                                    | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150   |         |         |         |         |         |         | °C    |

Note:

(1) Pulse test: Pulse width 300uSec, Duty cycle 1%

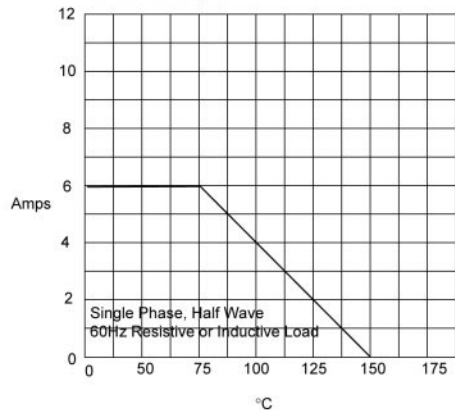
## RATINGS AND CHARACTERISTIC CURVES

Figure 1  
Typical Forward Characteristics



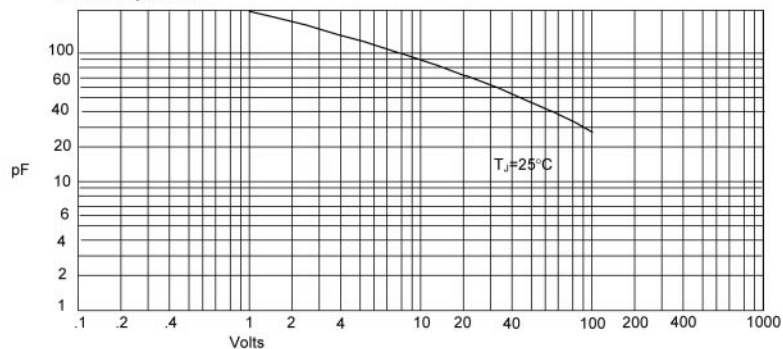
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

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

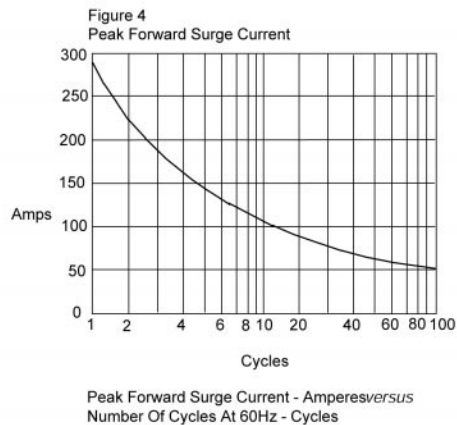


Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram

