



## FR101G THRU FR107G

## GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

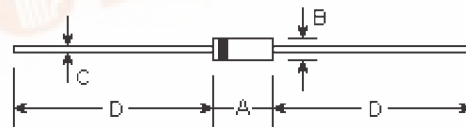
Reverse Voltage - 50 to 1000 Volts

Forward Current - 1.0 Ampere

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Capable of meeting environmental standards of MIL-S-19500
- For use in high frequency rectifier circuits
- Fast switching for high efficiency
- Glass passivated cavity-free junction
- 1.0 ampere operation at  $T_A=55^\circ\text{C}$  with no thermal runaway
- Typical  $I_R$  less than  $0.1\ \mu\text{A}$
- High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3Kg) tension.

## DO-41



## Mechanical Data

- **Case:** DO-41 molded plastic over glass body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.012 ounce, 0.335 gram

| DIMENSIONS |        |       |       |      |      |
|------------|--------|-------|-------|------|------|
| DIM        | inches |       | mm    |      | Note |
|            | Min.   | Max.  | Min.  | Max. |      |
| A          | 0.165  | 0.205 | 4.2   | 5.2  |      |
| B          | 0.079  | 0.106 | 2.0   | 2.7  | ϕ    |
| C          | 0.028  | 0.034 | 0.71  | 0.86 | ϕ    |
| D          | 1.000  | -     | 25.40 | -    |      |

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

|                                                                                                           | Symbols                           | FR 101G      | FR 102G | FR 103G | FR 104G | FR 105G | FR 106G | FR 107G | 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> =55℃                                                  | I <sub>(AV)</sub>                 | 1.0          |         |         |         |         |         |         | Amp   |
| Peak forward surge current 8.3ms single half sine-wave                                                    | I <sub>FSM</sub>                  | 30.0         |         |         |         |         |         |         | Amps  |
| Maximum instantaneous forward voltage<br>I <sub>FM</sub> =1.0A; T <sub>A</sub> =25℃ (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℃<br>T <sub>A</sub> =100℃ | I <sub>R</sub>                    | 5.0<br>100.0 |         |         |         |         |         |         | 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>                    | 15.0         |         |         |         |         |         |         | p F   |
| Operating and storage temperature range                                                                   | T <sub>J</sub> ’ T <sub>STG</sub> | -65 to +150  |         |         |         |         |         |         | ℃     |

Note:

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



## RATINGS AND CHARACTERISTIC CURVES

Figure 1  
Typical Forward Characteristics

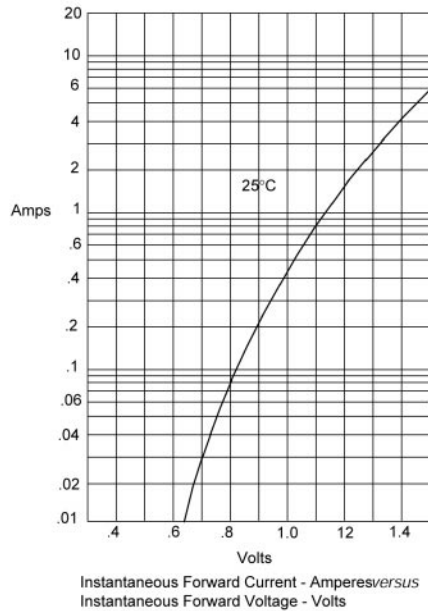


Figure 2  
Forward Derating Curve

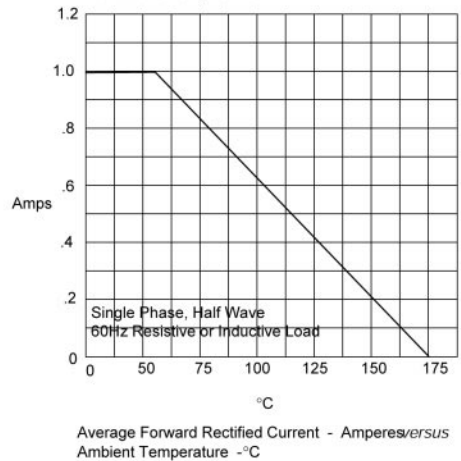
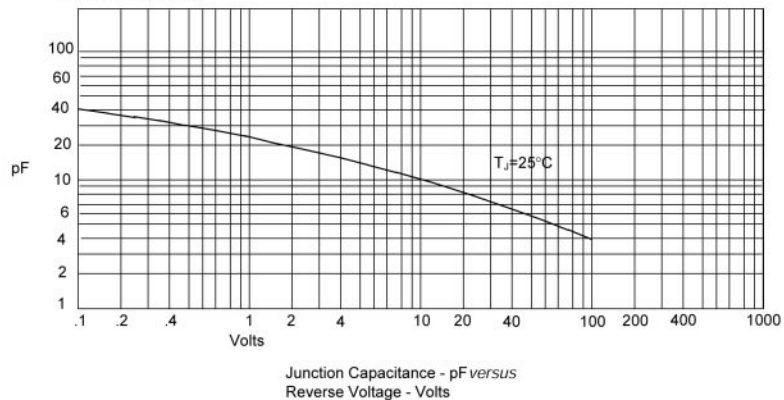


Figure 3  
Junction Capacitance



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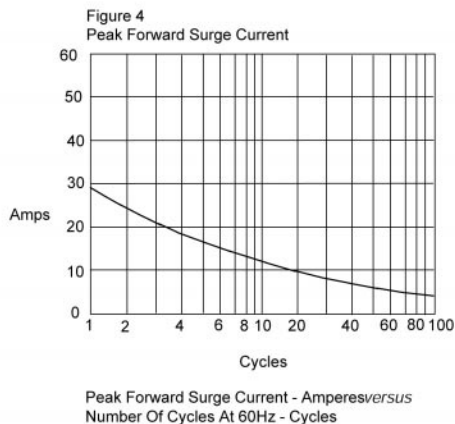
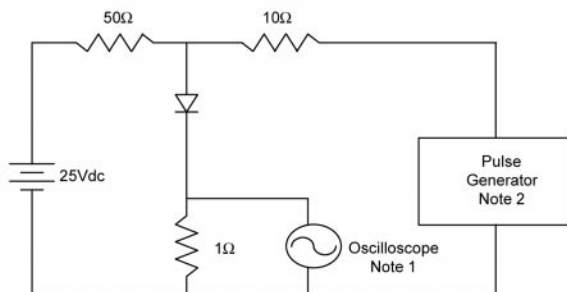


Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
  2. Rise Time = 10ns max.  
Source impedance = 50 ohms
  3. Resistors are non-inductive

