



FR101G THRU FR107G

GLASS PASSIVATED JUNCTION FAST SWITCHING RECTIFIER

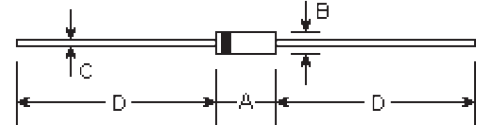
Reverse Voltage - 50 to 1000 Volts

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

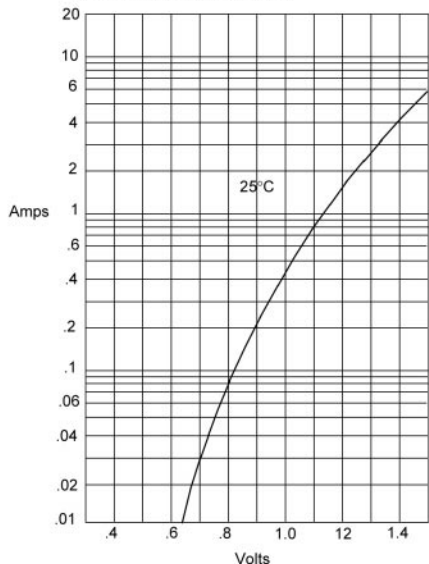
| | Symbols | FR 101G | FR 102G | FR 103G | FR 104G | FR 105G | FR 106G | FR 107G | Units |
|--|----------------|--------------|---------|---------|---------|---------|---------|---------|------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 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 $T_A=55^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak forward surge current 8.3ms single half sine-wave | I_{FSM} | 30.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage $I_{FM}=1.0\text{A}$; $T_A=25^\circ\text{C}$ (Note 1) | V_F | 1.3 | | | | | | | Volts |
| Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$ | I_R | 5.0 100.0 | | | | | | | μA |
| Maximum reverse recovery time at $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$ | T_{rr} | 150 | | | | 250 | 500 | | nS |
| Typical junction capacitance Measured at 1.0MHz, $V_R=4.0\text{V}$ | C_j | 15.0 | | | | | | | ρF |
| Operating and storage temperature range | T_J, T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

Note:

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

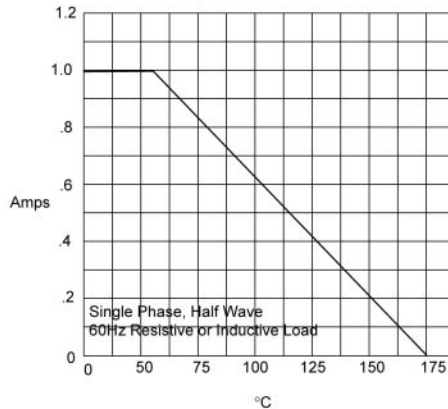
RATINGS AND CHARACTERISTIC CURVES

Figure 1
Typical Forward Characteristics



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

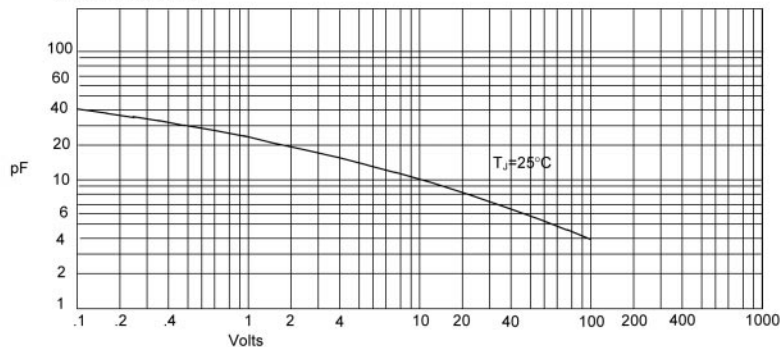
Figure 2
Forward Derating Curve



Single Phase, Half Wave
60Hz Resistive or Inductive Load

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

Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts

RATINGS AND CHARACTERISTIC CURVES

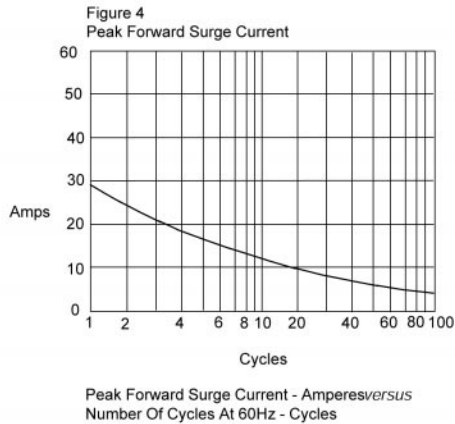


Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram

