

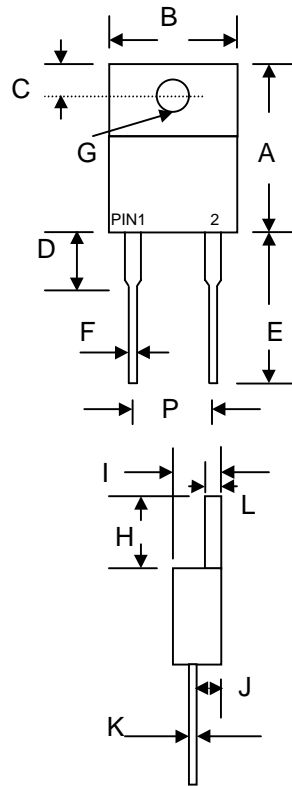
8.0A FAST RECOVERY GLASS PASSIVATED RECTIFIER

Features

- Glass Passivated Die Construction
- Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 2.24 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



| TO-220A | | |
|----------------------|--------|--------|
| Dim | Min | Max |
| A | 14.9 | 15.1 |
| B | — | 10.5 |
| C | 2.62 | 2.87 |
| D | 3.56 | 4.06 |
| E | 13.46 | 14.22 |
| F | 0.68 | 0.94 |
| G | 3.74 Ø | 3.91 Ø |
| H | 5.84 | 6.86 |
| I | 4.44 | 4.70 |
| J | 2.54 | 2.79 |
| K | 0.35 | 0.64 |
| L | 1.14 | 1.40 |
| P | 4.95 | 5.20 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | FR 801G | FR 802G | FR 803G | FR 804G | FR 805G | FR 806G | FR 807G | Unit |
|-----------------------------------------------------------------------------------------------------------------|-----------------|-------------|---------|---------|---------|---------|---------|---------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | | | | | | |
| DC Blocking Voltage | V_R | | | | | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current @ $T_C = 100^\circ\text{C}$ | I_O | 8.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 150 | | | | | | | A |
| Forward Voltage @ $I_F = 8.0\text{A}$ | V_{FM} | 1.3 | | | | | | | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$ | I_{RM} | 5.0 100 | | | | | | | μA |
| Reverse Recovery Time (Note 1) | t_{rr} | 150 | | | 250 | 500 | | nS | |
| Typical Junction Capacitance (Note 2) | C_j | 100 | | | | | | | pF |
| Typical Thermal Resistance Junction to Case | $R_{\theta JC}$ | 3.0 | | | | | | | K/W |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

Note: 1. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$. See figure 5.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

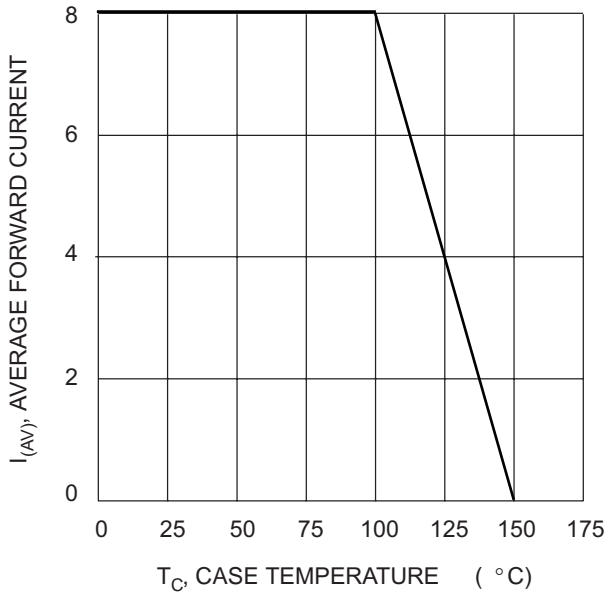


Fig. 1, Typical Forward Current Derating Curve

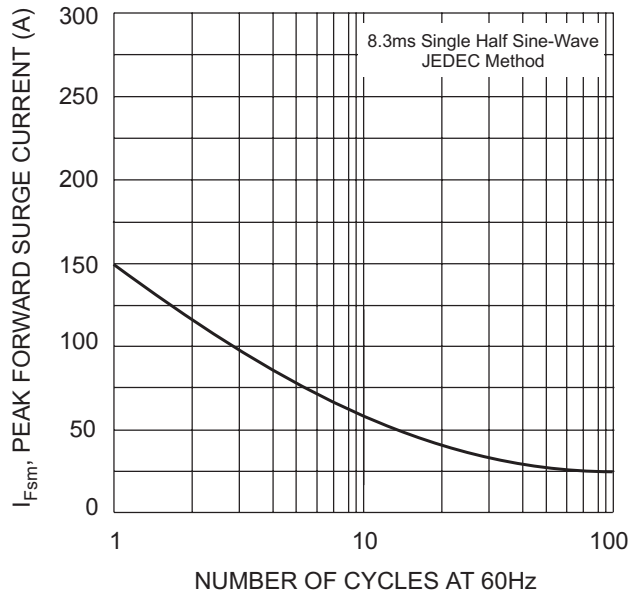


Fig. 2, Max Non-Repetitive Peak Surge Current

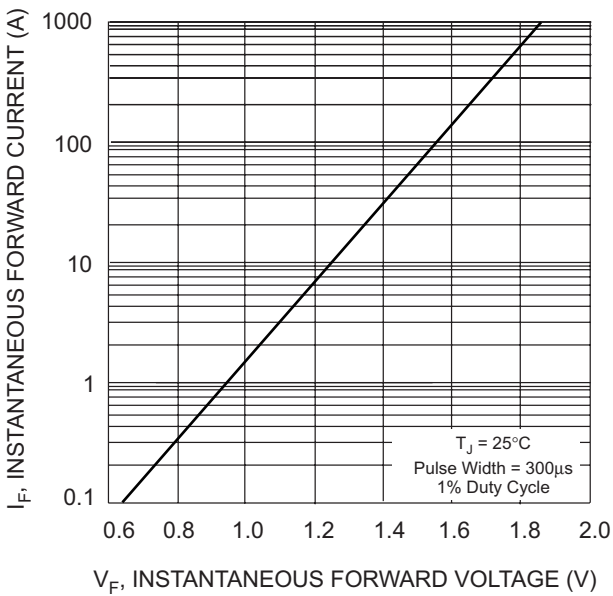


Fig. 3, Typical Instantaneous Forward Characteristics

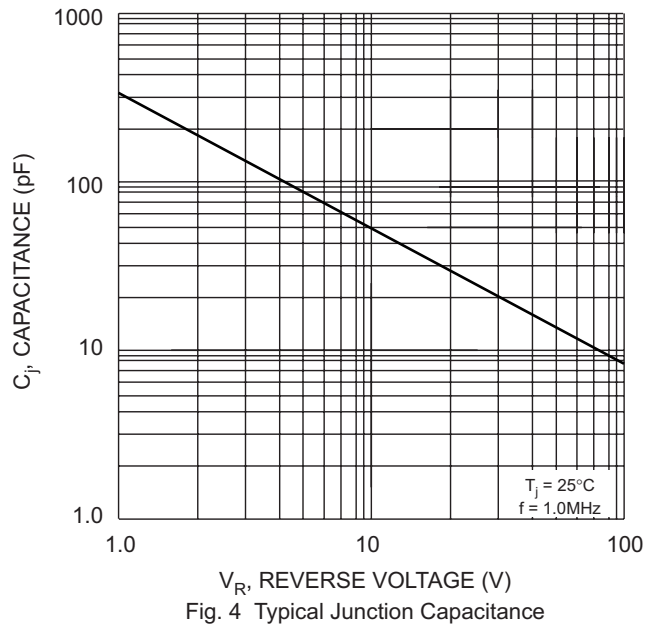
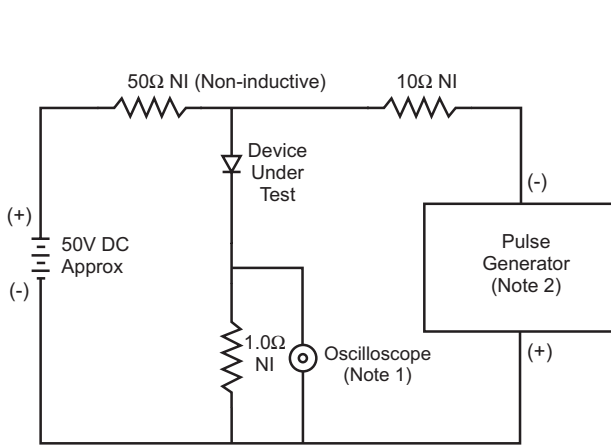


Fig. 4, Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|-------------|--------------|-------------------|
| FR801G | TO-220A | 50 Units/Tube |
| FR802G | TO-220A | 50 Units/Tube |
| FR803G | TO-220A | 50 Units/Tube |
| FR804G | TO-220A | 50 Units/Tube |
| FR805G | TO-220A | 50 Units/Tube |
| FR806G | TO-220A | 50 Units/Tube |
| FR807G | TO-220A | 50 Units/Tube |

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

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