

FR101 – FR107

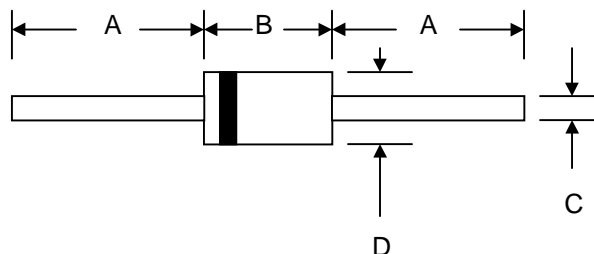
1.0A FAST RECOVERY RECTIFIER

Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.34 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



| DO-41 | | |
|----------------------|------|-------|
| Dim | Min | Max |
| A | 25.4 | — |
| B | 4.06 | 5.21 |
| C | 0.71 | 0.864 |
| D | 2.00 | 2.72 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

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

| Characteristic | Symbol | FR101 | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | Unit |
|---|--|-------------|-------|-------|-------|-------|-------|-------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @T _A = 55°C | I _O | 1.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 30 | | | | | | | A |
| Forward Voltage @I _F = 1.0A | V _{FM} | 1.2 | | | | | | | V |
| Peak Reverse Current @T _A = 25°C At Rated DC Blocking Voltage @T _A = 100°C | I _{RM} | 5.0 100 | | | | | | | μA |
| Reverse Recovery Time (Note 2) | t _{rr} | 150 | | | | 250 | 500 | | nS |
| Typical Junction Capacitance (Note 3) | C _j | 15 | | | | | | | pF |
| Operating Temperature Range | T _j | -65 to +125 | | | | | | | °C |
| Storage Temperature Range | T _{STG} | -65 to +150 | | | | | | | °C |

***Glass passivated forms are available upon request**

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case
 2. Measured with I_F = 0.5A, I_R = 1.0A, IRR = 0.25A. See figure 5.
 3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

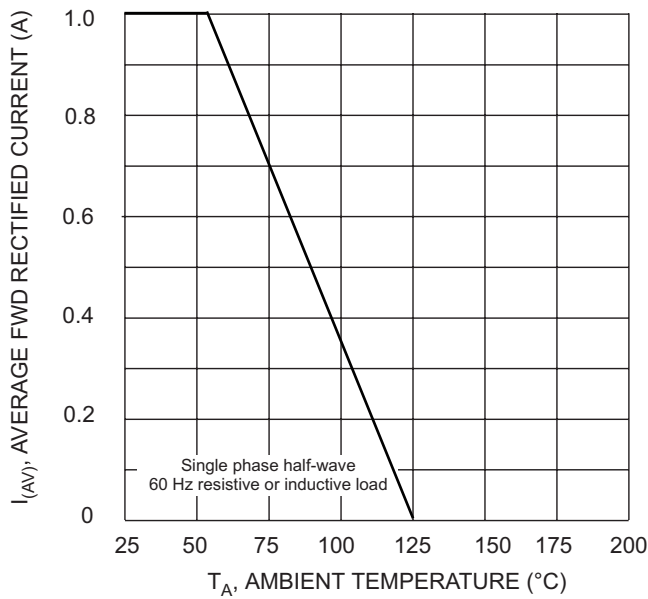


Fig. 1 Forward Derating Curve

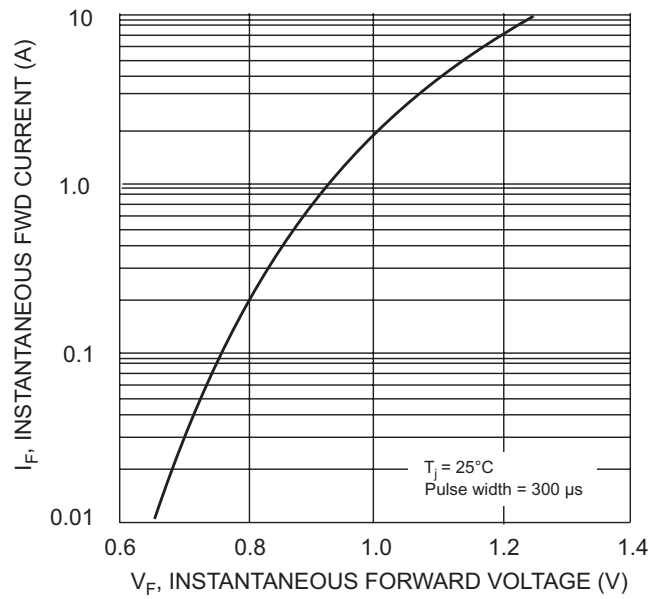


Fig. 2 Typical Forward Characteristics

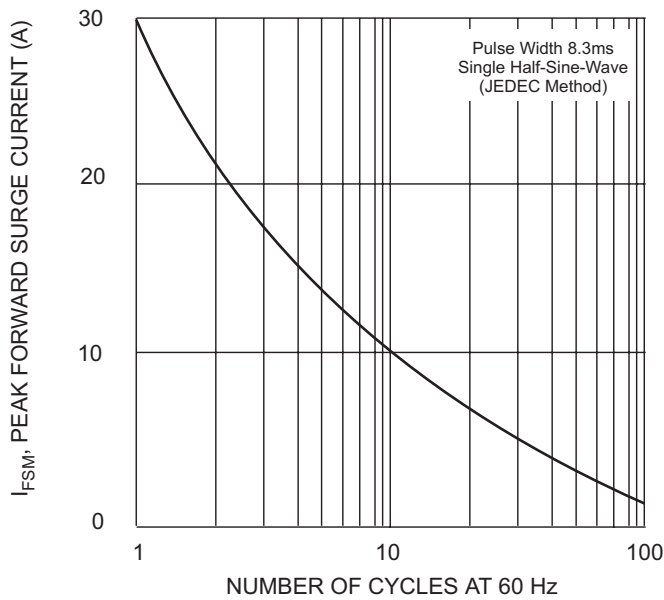


Fig. 3 Peak Forward Surge Current

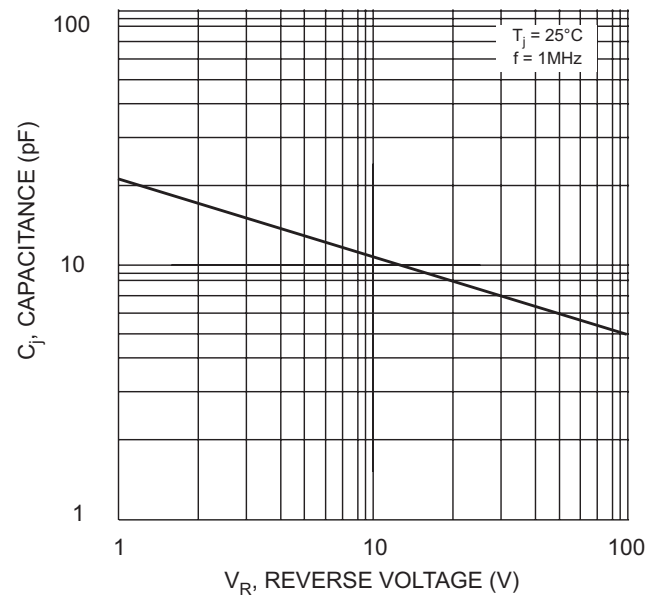
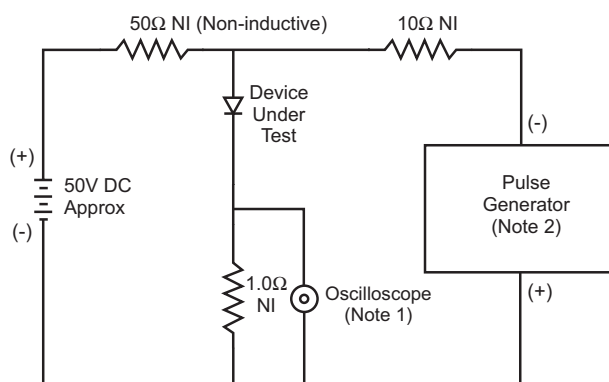


Fig. 4 Typical Junction Capacitance



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

Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

ORDERING INFORMATION

| Product No.♦ | Package Type | Shipping Quantity |
|-----------------|--------------|-------------------|
| FR101-T3 | DO-41 | 5000/Tape & Reel |
| FR101-TB | DO-41 | 5000/Tape & Box |
| FR101 | DO-41 | 1000 Units/Box |
| FR102-T3 | DO-41 | 5000/Tape & Reel |
| FR102-TB | DO-41 | 5000/Tape & Box |
| FR102 | DO-41 | 1000 Units/Box |
| FR103-T3 | DO-41 | 5000/Tape & Reel |
| FR103-TB | DO-41 | 5000/Tape & Box |
| FR103 | DO-41 | 1000 Units/Box |
| FR104-T3 | DO-41 | 5000/Tape & Reel |
| FR104-TB | DO-41 | 5000/Tape & Box |
| FR104 | DO-41 | 1000 Units/Box |
| FR105-T3 | DO-41 | 5000/Tape & Reel |
| FR105-TB | DO-41 | 5000/Tape & Box |
| FR105 | DO-41 | 1000 Units/Box |
| FR106-T3 | DO-41 | 5000/Tape & Reel |
| FR106-TB | DO-41 | 5000/Tape & Box |
| FR106 | DO-41 | 1000 Units/Box |
| FR107-T3 | DO-41 | 5000/Tape & Reel |
| FR107-TB | DO-41 | 5000/Tape & Box |
| FR107 | DO-41 | 1000 Units/Box |

Products listed in **bold** are WTE **Preferred** devices.

♦T3 suffix refers to a 13" reel. TB suffix refers to Ammo Pack.

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

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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