



THE DATASHEET OF UF2006-T

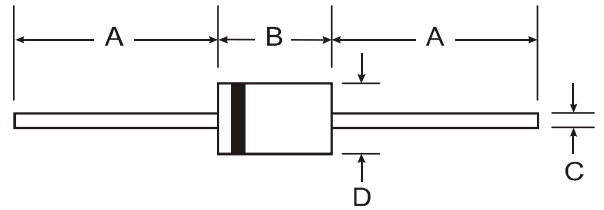


Features

- Diffused Junction
- Ultra-Fast Switching for High Efficiency
- Surge Overload Rating to 60A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**

Mechanical Data

- Case: DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish – Tin. Solderable per MIL-STD-202, Method 208 @3
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Page 3
- Weight: 0.4 grams (approximate)



| DO-15 | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 25.40 | — |
| B | 5.50 | 7.62 |
| C | 0.686 | 0.889 |
| D | 2.60 | 3.60 |
| 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 | UF 2001 | UF 2002 | UF 2003 | UF 2004 | UF 2005 | UF 2006 | UF 2007 | Unit |
|--|-----------------------------------|--|---------|---------|---------|---------|---------|---------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | | | | | | | | |
| Working Peak Reverse Voltage | V _{RWM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| DC Blocking Voltage (Note 5) | V _R | | | | | | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) | I _O | 2.0 | | | | | | | A |
| | | @ T _A = 50°C | | | | | | | |
| Non-Repetitive Peak Forward Surge Current | I _{FSM} | 60 | | | | | | | A |
| | | 8.3ms Single Half Sine-Wave Superimposed on Rated Load | | | | | | | |
| Forward Voltage | V _{FM} | 1.0 | | 1.3 | | 1.7 | | | V |
| | | @ I _F = 2.0A | | | | | | | |
| Peak Reverse Current | I _{RM} | 5.0 | | | | | | | μA |
| | | @ T _A = 25°C | | | | | | | |
| | | @ T _A = 100°C | | | | | | | |
| Reverse Recovery Time (Note 3) | t _{rr} | 50 | | | | 75 | | | ns |
| Typical Total Capacitance (Note 2) | C _T | 50 | | | | 30 | | | pF |
| Typical Thermal Resistance Junction to Ambient | R _{θJA} | 50 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | | | | | | | °C |

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Measured at I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
 4. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
 5. Short duration pulse test used to minimize self heating effect.

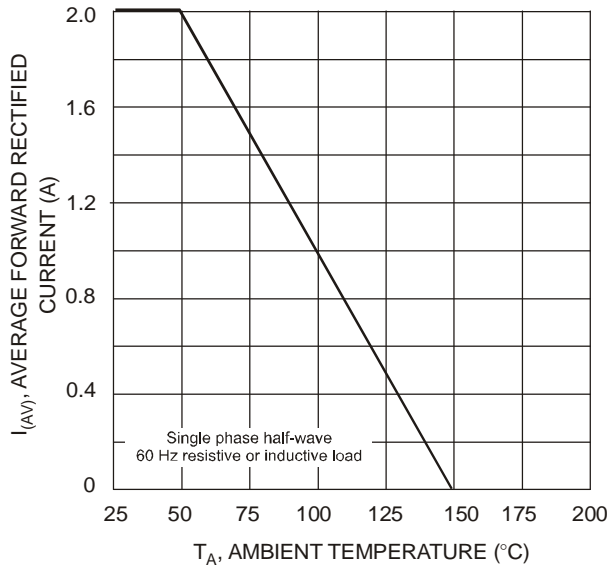


Fig. 1 Forward Current Derating Curve

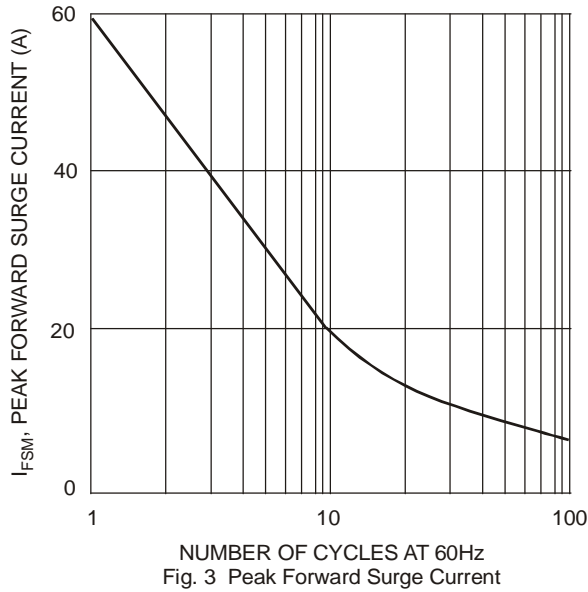
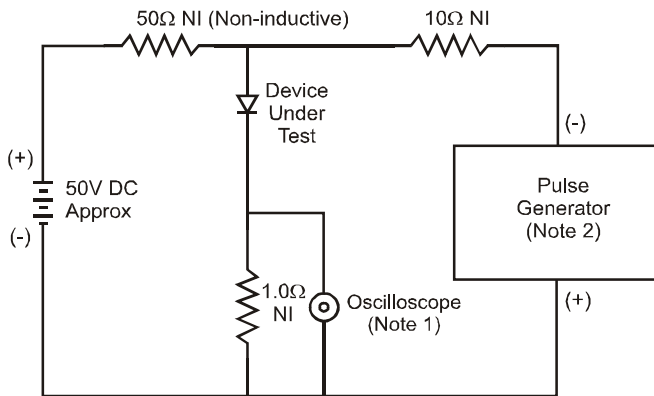


Fig. 3 Peak Forward Surge Current



- 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

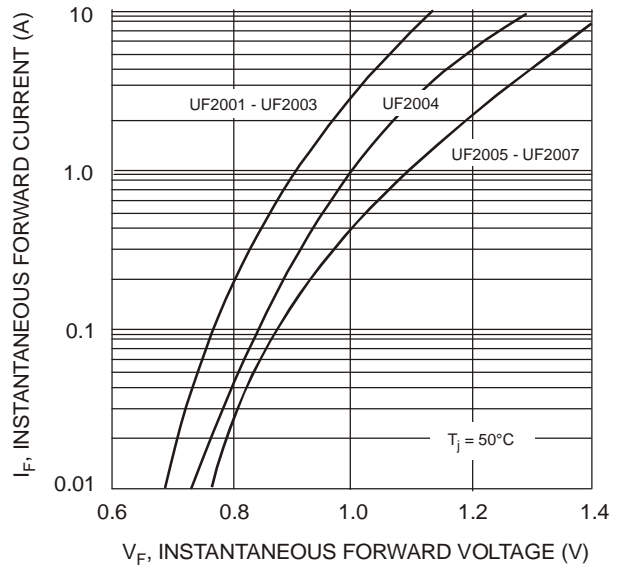


Fig. 2 Typical Forward Characteristics

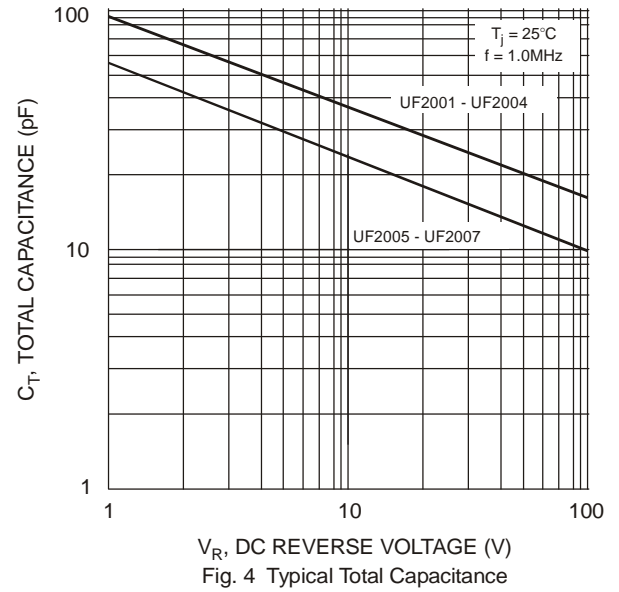
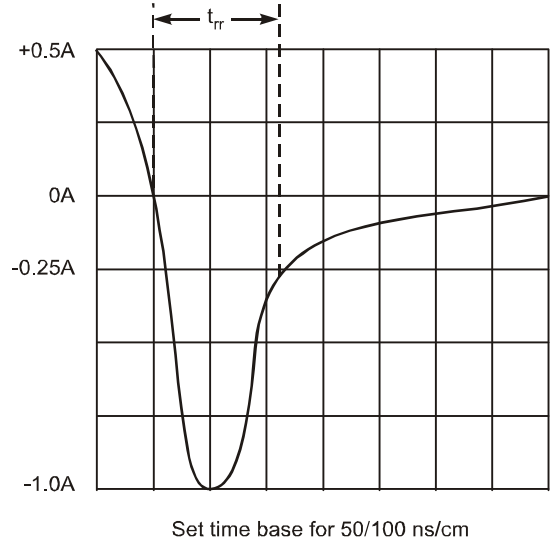


Fig. 4 Typical Total Capacitance



Set time base for 50/100 ns/cm

Ordering Information (Note 6)

| Device | Packaging | Shipping |
|----------|-----------|-------------------------|
| UF2001-T | DO-15 | 4K/Tape & Reel, 13-inch |
| UF2002-T | DO-15 | 4K/Tape & Reel, 13-inch |
| UF2003-T | DO-15 | 4K/Tape & Reel, 13-inch |
| UF2004-T | DO-15 | 4K/Tape & Reel, 13-inch |
| UF2005-T | DO-15 | 4K/Tape & Reel, 13-inch |
| UF2006-T | DO-15 | 4K/Tape & Reel, 13-inch |
| UF2007-T | DO-15 | 4K/Tape & Reel, 13-inch |

Notes: 6. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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