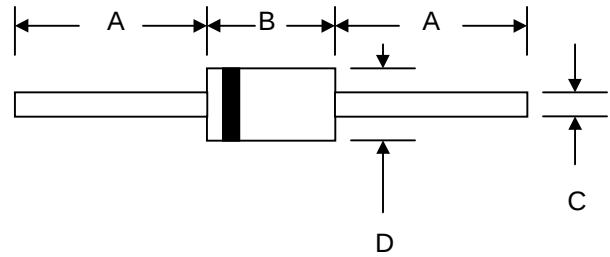


## Features

- 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
- **Lead Free: For RoHS / Lead Free Version**



| DO-41                |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 24.5 | —    |
| B                    | 4.06 | 5.21 |
| C                    | 0.60 | 0.80 |
| D                    | 2.00 | 3.00 |
| All Dimensions in mm |      |      |

## Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

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

| Characteristic                                                                                                        | Symbol                                                 | UF 4001     | UF 4002 | UF 4003 | UF 4004 | UF 4005 | UF 4006 | UF 4007 | Unit |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|---------|---------|---------|---------|---------|---------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V    |
| RMS Reverse Voltage                                                                                                   | V <sub>R(RMS)</sub>                                    | 35          | 70      | 140     | 280     | 420     | 560     | 700     | V    |
| Average Rectified Output Current<br>(Note 1) @T <sub>A</sub> = 55°C                                                   | I <sub>O</sub>                                         | 1.0         |         |         |         |         |         |         | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on<br>rated load (JEDEC Method) | I <sub>FSM</sub>                                       | 30          |         |         |         |         |         |         | A    |
| Forward Voltage @I <sub>F</sub> = 1.0A                                                                                | V <sub>FM</sub>                                        | 1.0         |         |         |         | 1.3     | 1.7     |         | V    |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                   | I <sub>RM</sub>                                        | 5.0<br>100  |         |         |         |         |         |         | μA   |
| Reverse Recovery Time (Note 2)                                                                                        | t <sub>rr</sub>                                        | 50          |         |         |         |         | 75      |         | nS   |
| Typical Junction Capacitance (Note 3)                                                                                 | C <sub>j</sub>                                         | 20          |         |         |         |         | 15      |         | pF   |
| Operating Temperature Range                                                                                           | T <sub>j</sub>                                         | -65 to +150 |         |         |         |         |         |         | °C   |
| Storage Temperature Range                                                                                             | T <sub>STG</sub>                                       | -65 to +150 |         |         |         |         |         |         | °C   |

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case  
2. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A. See figure 5.  
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

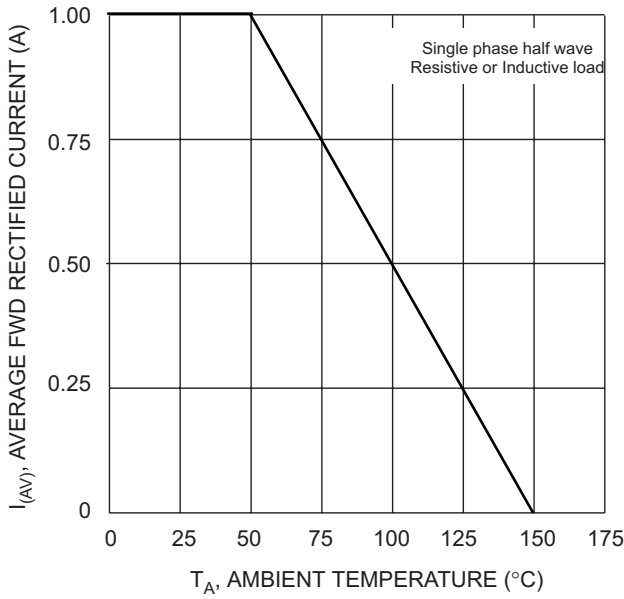


Fig. 1 Forward Current Derating Curve

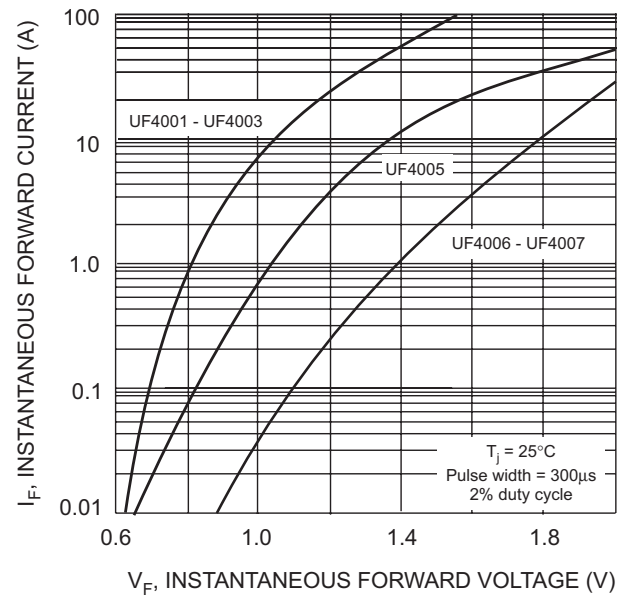


Fig. 2 Typical Forward Characteristics

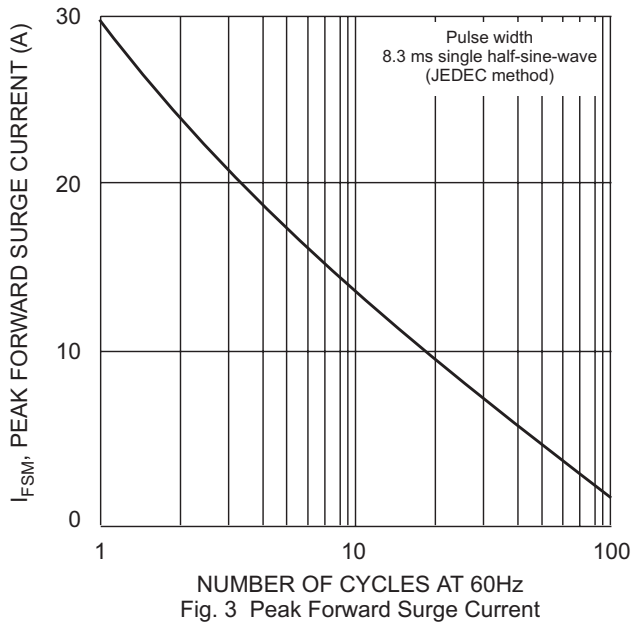


Fig. 3 Peak Forward Surge Current

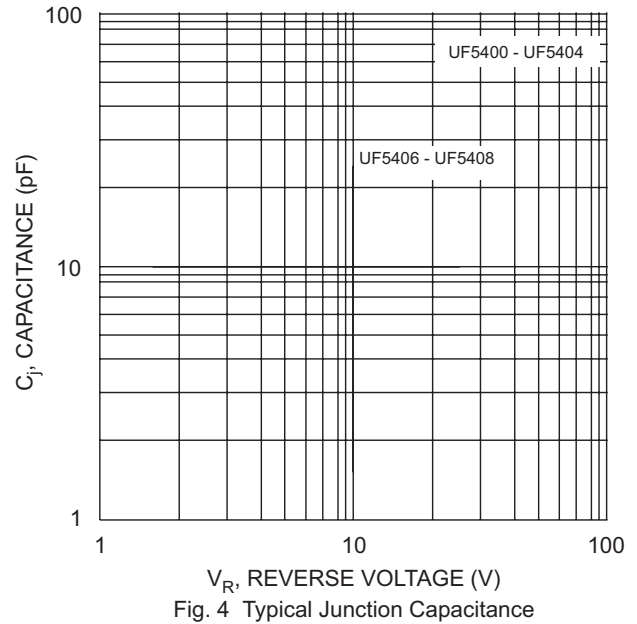
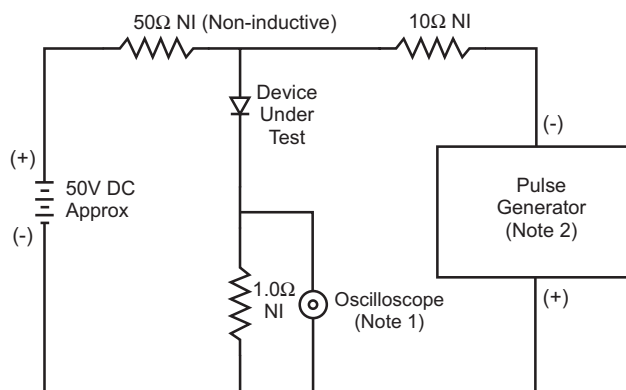
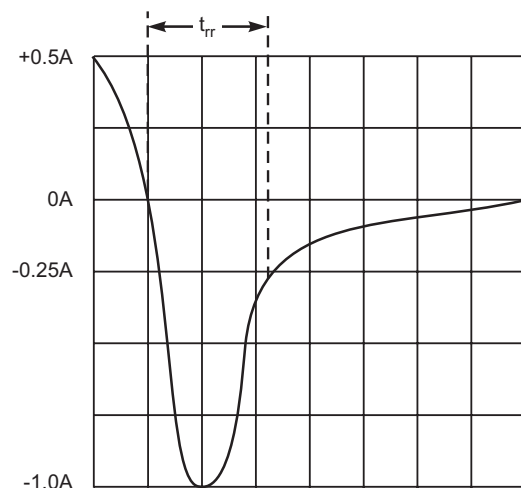


Fig. 4 Typical Junction Capacitance



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit