

# UF4001 - UF4007

## Fast Rectifiers

- Low forward voltage drop
- High surge current capability
- High reliability
- High current capability



**DO-41 (Plastic)**  
COLOR BAND DENOTES CATHODE

### Absolute Maximum Ratings\* $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter  | Value       |      |      |      |      |      |      | Units            |
|-------------|--|-------------|------|------|------|------|------|------|------------------|
|             |  | 4001        | 4002 | 4003 | 4004 | 4005 | 4006 | 4007 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage   | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current,<br>.375" lead length @ $T_A = 75^\circ\text{C}$ | 1.0         |      |      |      |      |      |      | A                |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half-Sine-Wave           | 30          |      |      |      |      |      |      | A                |
| $T_{STG}$   | Storage Temperature Range  | -65 to +150 |      |      |      |      |      |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature   | -65 to +150 |      |      |      |      |      |      | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

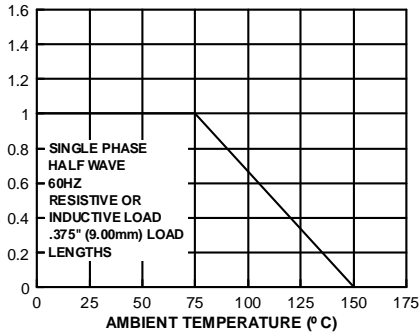
| Symbol          | Parameter                               | Value | Units                     |
|-----------------|---|-------|---------------------------|
| $P_D$           | Power Dissipation                       | 2.08  | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 60    | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead    | 30    | $^\circ\text{C}/\text{W}$ |

### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

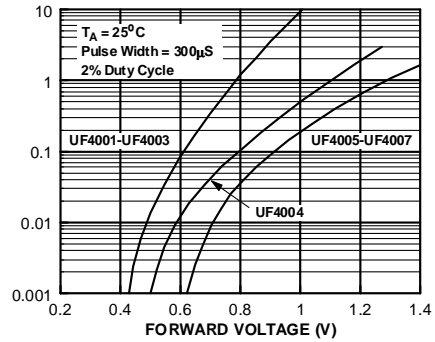
| Symbol   | Parameter  | Value |      |      |      |      |      |      | Units                          |
|----------|--|-------|------|------|------|------|------|------|--------------------------------|
|          |  | 4001  | 4002 | 4003 | 4004 | 4005 | 4006 | 4007 |                                |
| $V_F$    | Forward Voltage @ 1.0A   | 1.0   |      |      | 1.7  |      |      |      | V                              |
| $t_{rr}$ | Reverse Recovery Time<br>$I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{RR} = 0.25\text{A}$ | 50    |      |      | 75   |      |      |      | ns                             |
| $I_R$    | Reverse Current @ Rated $V_R$ $T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$          | 10    |      |      | 50   |      |      |      | $\mu\text{A}$<br>$\mu\text{A}$ |
| $C_T$    | Total Capacitance<br>$V_R = 4.0\text{V}$ , $f = 1.0\text{MHz}$                               | 17    |      |      |      |      |      |      | pF                             |

## Typical Performance Characteristics

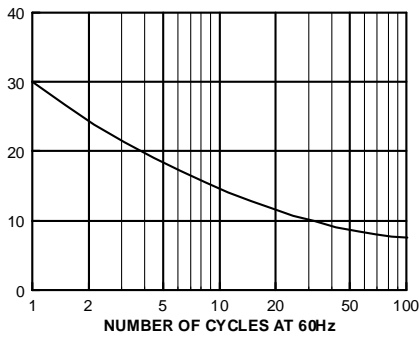
**Forward Characteristics**



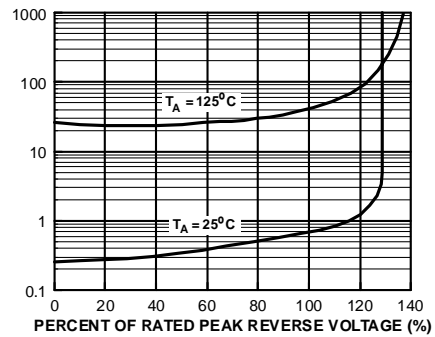
**Forward Characteristics**



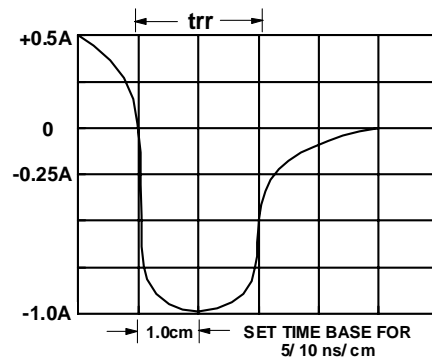
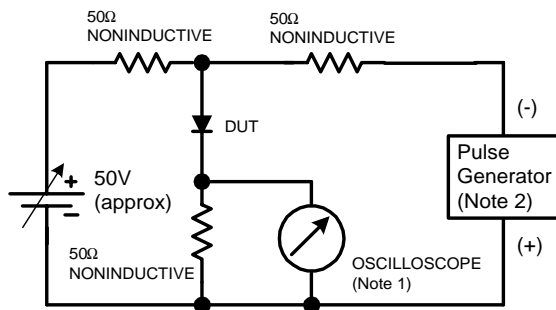
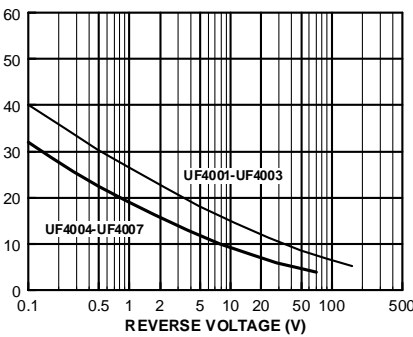
**Non-Repetitive Surge Current**



**Reverse Characteristics**



**Typical Junction Capacitance**



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| Bottomless™                          | FPS™                | LittleFET™             | PowerEdge™                   | SuperFET™              |
| CoolFET™                             | FRFET™              | MICROCOUPLER™          | PowerSaver™                  | SuperSOT™-3            |
| CROSSVOLT™                           | GlobalOptoisolator™ | MicroFET™              | PowerTrench <sup>®</sup>     | SuperSOT™-6            |
| DOME™                                | GTO™                | MicroPak™              | QFET <sup>®</sup>            | SuperSOT™-8            |
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| FACT Quiet Series™                   |                     | OCXPro™                | RapidConnect™                | UHC™                   |
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