

# 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<sub>a</sub> = 25°C unless otherwise noted

| Symbol             | Parameter   | Value       |      |      |      |      |      |      | Units |
|--------------------|---|-------------|------|------|------|------|------|------|-------|
|                    |   | 4001        | 4002 | 4003 | 4004 | 4005 | 4006 | 4007 |       |
| V <sub>RRM</sub>   | Maximum Repetitive Reverse Voltage  | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V     |
| I <sub>F(AV)</sub> | Average Rectified Forward Current,<br>.375" lead length @ T <sub>A</sub> = 75°C | 1.0         |      |      |      |      |      |      | A     |
| I <sub>FSM</sub>   | Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half-Sine-Wave        | 30          |      |      |      |      |      |      | A     |
| T <sub>STG</sub>   | Storage Temperature Range   | -65 to +150 |      |      |      |      |      |      | °C    |
| T <sub>J</sub>     | Operating Junction Temperature  | -65 to +150 |      |      |      |      |      |      | °C    |

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

### Thermal Characteristics

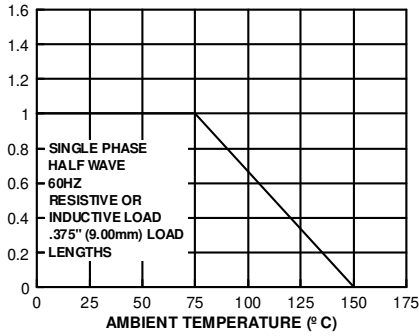
| Symbol           | Parameter                               | Value | Units |
|------------------|---|-------|-------|
| P <sub>D</sub>   | Power Dissipation                       | 2.08  | W     |
| R <sub>θJA</sub> | Thermal Resistance, Junction to Ambient | 60    | °C/W  |
| R <sub>θJL</sub> | Thermal Resistance, Junction to Lead    | 30    | °C/W  |

### Electrical Characteristics T<sub>a</sub> = 25°C unless otherwise noted

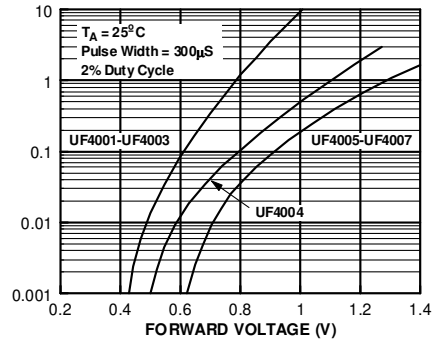
| Symbol          | Parameter  | Value |      |      |      |      |      |      | Units    |
|-----------------|--|-------|------|------|------|------|------|------|----------|
|                 |  | 4001  | 4002 | 4003 | 4004 | 4005 | 4006 | 4007 |          |
| V <sub>F</sub>  | Forward Voltage @ 1.0A   | 1.0   |      |      | 1.7  |      |      |      | V        |
| t <sub>rr</sub> | Reverse Recovery Time<br>I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>RR</sub> = 0.25A | 50    |      |      | 75   |      |      |      | ns       |
| I <sub>R</sub>  | Reverse Current @ Rated V <sub>R</sub> T <sub>A</sub> = 25°C<br>T <sub>A</sub> = 100°C         | 10    |      |      | 50   |      |      |      | μA<br>μA |
| C <sub>T</sub>  | Total Capacitance<br>V <sub>R</sub> = 4.0V, f = 1.0MHz   | 17    |      |      |      |      |      |      | pF       |

## Typical Performance Characteristics

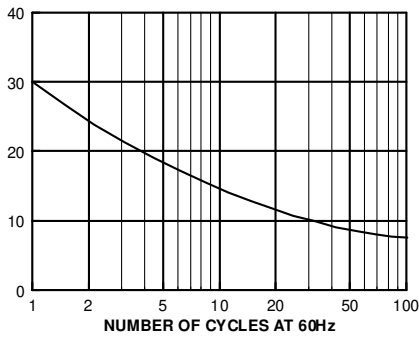
**Forward Characteristics**



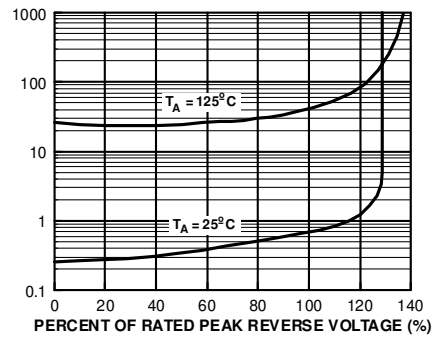
**Forward Characteristics**



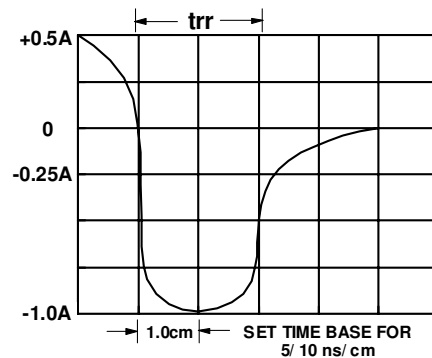
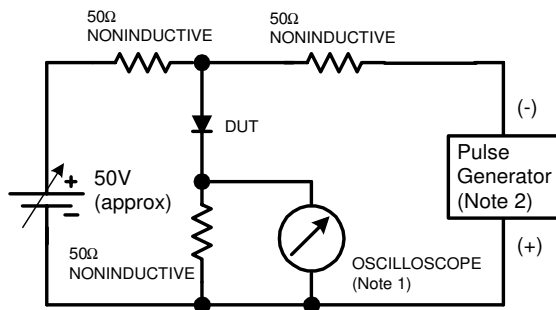
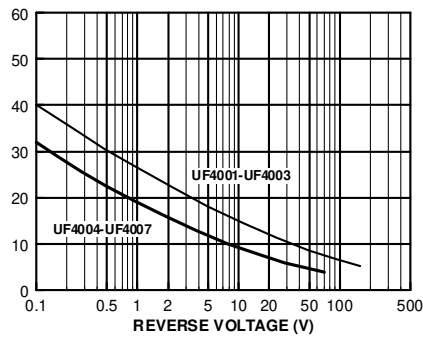
**Non-Repetitive Surge Current**



**Reverse Characteristics**



**Typical Junction Capacitance**



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| ActiveArray™                         | FAST <sup>r</sup> ™ | ISOPANAR™              | Power247™                    | Stealth™               |
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| 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™                                | ImpliedDisconnect™  | OCX™                   | RapidConfigure™              | TruTranslation™        |
| FACT Quiet Series™                   |                     | OCXPro™                | RapidConnect™                | UHC™                   |
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| The Power Franchise <sup>®</sup>     |                     | OPTOPLANAR™            | SILENT SWITCHER <sup>®</sup> | UniFET™                |
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|--------------------------|------------------------|---|
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