

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

UF4001 THRU UF4007

ULTRA FAST SILICON RECTIFIER  
1.0 AMPS, 50 THRU 1000 VOLTS

JEDEC DO-41 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR UF4001 series types are silicon ultra fast recovery rectifiers designed for those applications requiring extremely fast recovery times at a low cost.

## MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

|                                                              | <u>SYMBOL</u>  | <u>UF</u><br><u>4001</u> | <u>UF</u><br><u>4002</u> | <u>UF</u><br><u>4003</u> | <u>UF</u><br><u>4004</u> | <u>UF</u><br><u>4005</u> | <u>UF</u><br><u>4006</u> | <u>UF</u><br><u>4007</u> | <u>UNITS</u>       |
|--------------------------------------------------------------|----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------|
| Peak Reverse Voltage                                         | $V_{RRM}$      | 50                       | 100                      | 200                      | 400                      | 600                      | 800                      | 1000                     | V                  |
| DC Blocking Voltage                                          | $V_R$          | 50                       | 100                      | 200                      | 400                      | 600                      | 800                      | 1000                     | V                  |
| RMS Voltage                                                  | $V_{RMS}$      | 35                       | 70                       | 140                      | 280                      | 420                      | 560                      | 700                      | V                  |
| Average Forward Current( $T_A=75^\circ\text{C}$ )            | $I_O$          |                          |                          |                          | 1.0                      |                          |                          |                          | A                  |
| Peak Forward Surge Current<br>(8.3 ms single half sine wave) | $I_{FSM}$      |                          |                          |                          | 30                       |                          |                          |                          | A                  |
| Operating and Storage<br>Junction Temperature                | $T_J, T_{stg}$ |                          |                          |                          | -65 to +150              |                          |                          |                          | $^\circ\text{C}$   |
| Thermal Resistance                                           | $\Theta_{JA}$  |                          |                          |                          | 50                       |                          |                          |                          | $^\circ\text{C/W}$ |

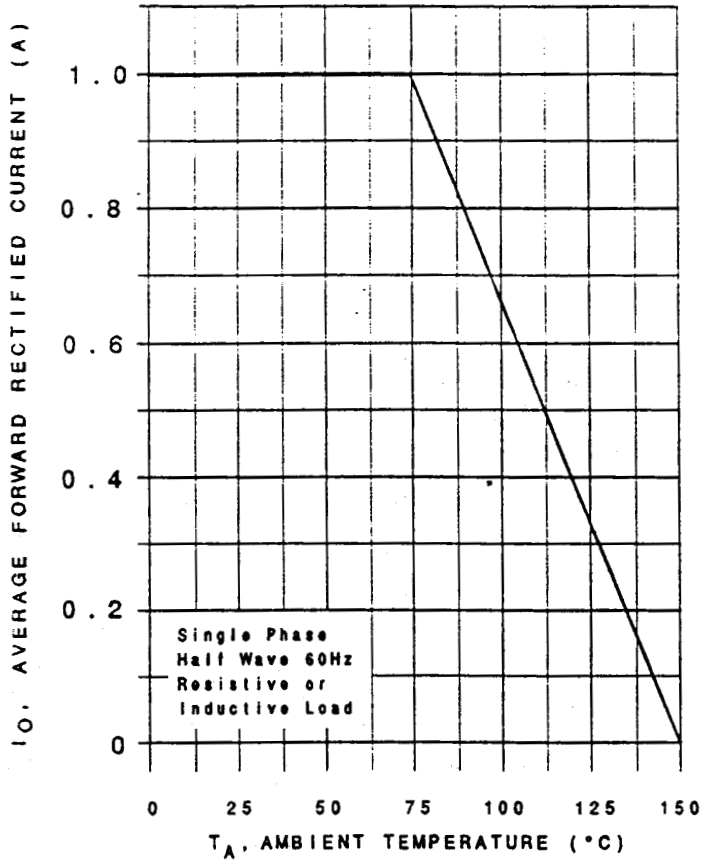
## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| <u>SYMBOL</u> | <u>TEST CONDITIONS</u>                                               | <u>MIN</u> | <u>TYP</u> | <u>MAX</u> | <u>UNITS</u>  |
|---------------|----------------------------------------------------------------------|------------|------------|------------|---------------|
| $I_R$         | $V_R$ =Rated $V_{RRM}$                                               |            |            | 10         | $\mu\text{A}$ |
| $I_R$         | $V_R$ =Rated $V_{RRM}, T_A=100^\circ\text{C}$                        |            |            | 100        | $\mu\text{A}$ |
| $V_F$         | $I_F=1.0\text{A}$ (50V THRU 400V)                                    |            |            | 1.0        | V             |
| $V_F$         | $I_F=1.0\text{A}$ (600V THRU 1000V)                                  |            |            | 1.7        | V             |
| $t_{rr}$      | $I_R=1.0\text{A}, I_F=0.5\text{A}$ , Rec. to 0.25A (50V THRU 400V)   |            |            | 50         | ns            |
| $t_{rr}$      | $I_R=1.0\text{A}, I_F=0.5\text{A}$ , Rec. to 0.25A (600V THRU 1000V) |            |            | 75         | ns            |
| $C_j$         | $V_R=4.0\text{V}$ , $f=1.0\text{ MHz}$ (50V THRU 400V)               |            | 20         |            | pF            |
| $C_j$         | $V_R=4.0\text{V}$ , $f=1.0\text{ MHz}$ (600V THRU 1000V)             |            | 10         |            | pF            |

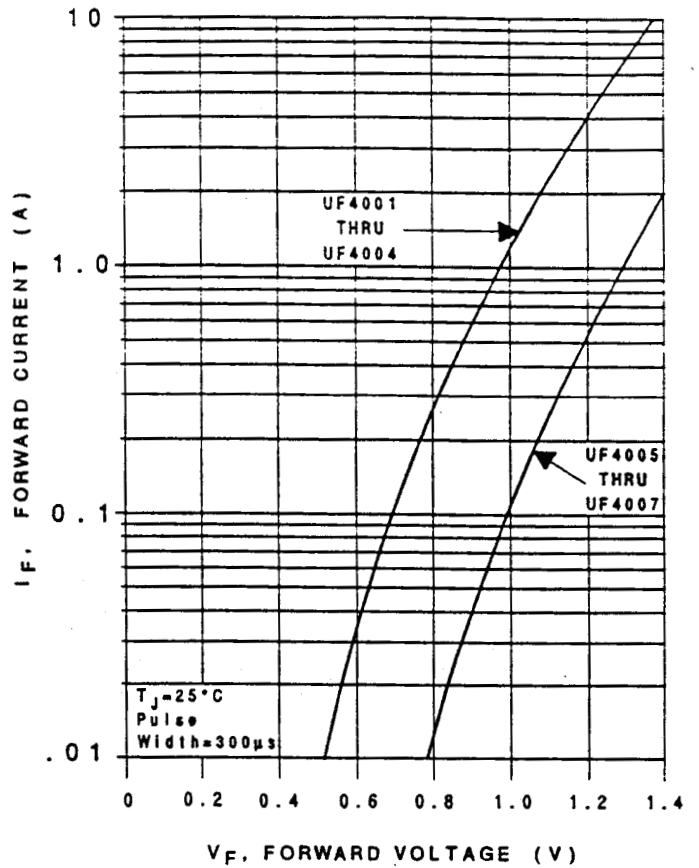
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# UF4001 SERIES RATING AND CHARACTERISTICS CURVES

FORWARD DERATING CURVE

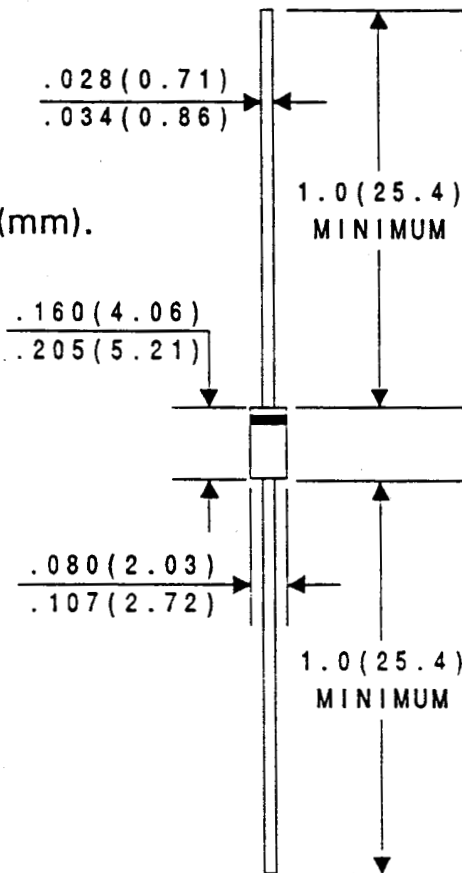


TYPICAL FORWARD CHARACTERISTICS



## JEDEC DO-41 CASE - MECHANICAL OUTLINE

All Dimensions in Inches (mm).



## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centalsemi.com/terms](http://www.centalsemi.com/terms)



http://www.centrasemi.com

# Product End of Life Notification

|                           |          |
|---------------------------|----------|
| <b>PDN ID:</b>            | PDN01032 |
| <b>Notification Date:</b> | 8/15/16  |
| <b>Last Buy Date:</b>     | 2/15/17  |
| <b>Last Shipment Date</b> | 8/15/17  |

Summary: The UF4001 series of 1 Amp, Ultra Fast, silicon rectifiers is discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

| <b>Central Part Number</b> | <b>Replacement</b> |
|----------------------------|--------------------|
| UF4001 BK                  | N/A                |
| UF4001 TR                  | N/A                |
| UF4002 BK                  | N/A                |
| UF4002 TR                  | N/A                |
| UF4003 BK                  | N/A                |
| UF4003 TR                  | N/A                |
| UF4004 BK                  | N/A                |
| UF4004 TR                  | N/A                |
| UF4005 BK                  | N/A                |
| UF4005 TR                  | N/A                |
| UF4006 BK                  | N/A                |
| UF4006 TR                  | N/A                |
| UF4007 BK                  | N/A                |
| UF4007 TR                  | N/A                |

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to [engineering@centrasemi.com](mailto:engineering@centrasemi.com).

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.