

CentralTM 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> <u>4001</u> | <u>UF</u> <u>4002</u> | <u>UF</u> <u>4003</u> | <u>UF</u> <u>4004</u> | <u>UF</u> <u>4005</u> | <u>UF</u> <u>4006</u> | <u>UF</u> <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 (8.3 ms single half sine wave) | I_{FSM} | | | | 30 | | | | A |
| Operating and Storage Junction Temperature | T_J, T_{stg} | | | | -65 to +150 | | | | $^\circ\text{C}$ |
| Thermal Resistance | Θ_{JA} | | | | 50 | | | | $^\circ\text{C/W}$ |

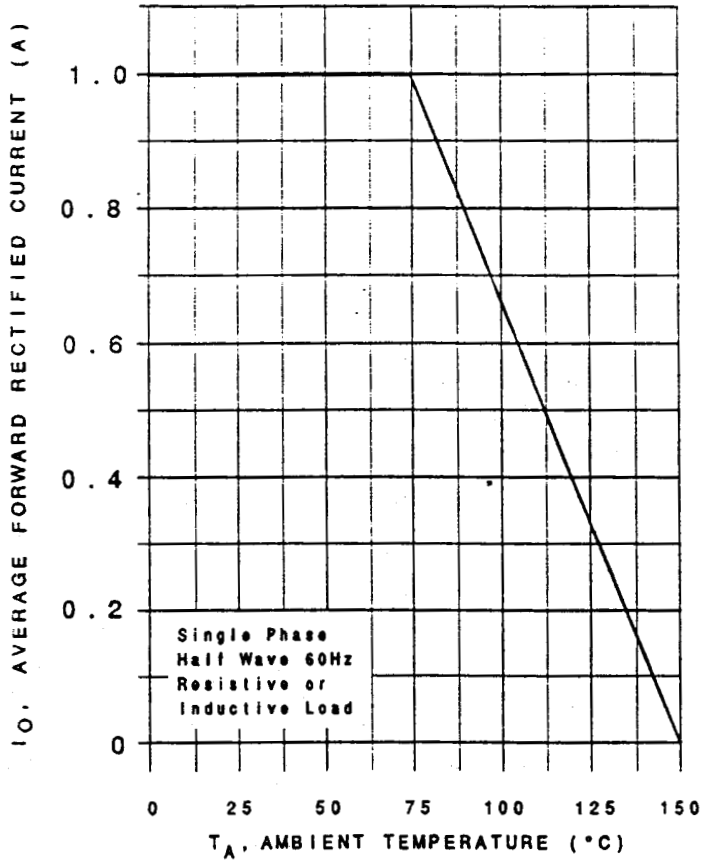
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

| <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 | μA |
| I_R | V_R =Rated $V_{RRM}, T_A=100^\circ\text{C}$ | | | 100 | μA |
| 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 |

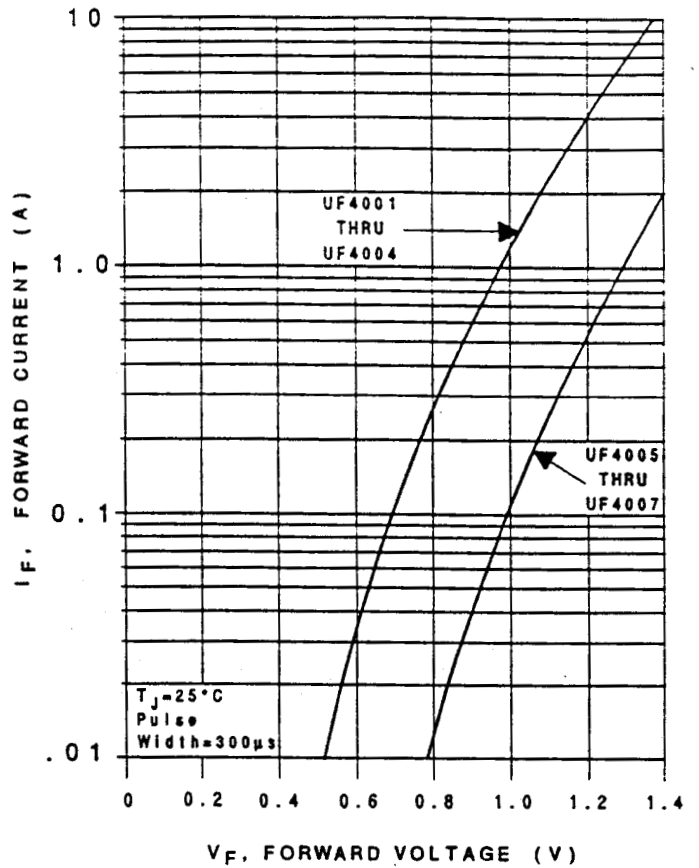
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UF4001 SERIES RATING AND CHARACTERISTICS CURVES

FORWARD DERATING CURVE



TYPICAL FORWARD CHARACTERISTICS



JEDEC DO-41 CASE - MECHANICAL OUTLINE

All Dimensions in Inches (mm).

