# 1.0 Amp Glass Passivated Ultra Fast Recovery Rectifier 50 to 1000 Volts

## Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Ultra Fast Switching Speed For High Efficiency
- Low Leakage
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -55ºC to +150ºC
- Storage Temperature Range: -55ºC to +150ºC
- Typical Thermal Resistance: 40°C/W Junction to Ambient
- Typical Thermal Resistance: 20°C/W Junction to Case
- Typical Thermal Resistance: 15°C/W Junction to Lead

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|---|---|---|---|---|
| UF4001GP | UF4001GP | 50V | 35V | 50V |
| UF4002GP | UF4002GP | 100V | 70V | 100V |
| UF4003GP | UF4003GP | 200V | 140V | 200V |
| UF4004GP | UF4004GP | 400V | 280V | 400V |
| UF4005GP | UF4005GP | 600V | 420V | 600V |
| UF4006GP | UF4006GP | 800V | 560V | 800V |
| UF4007GP | UF4007GP | 1000V | 700V | 1000V |

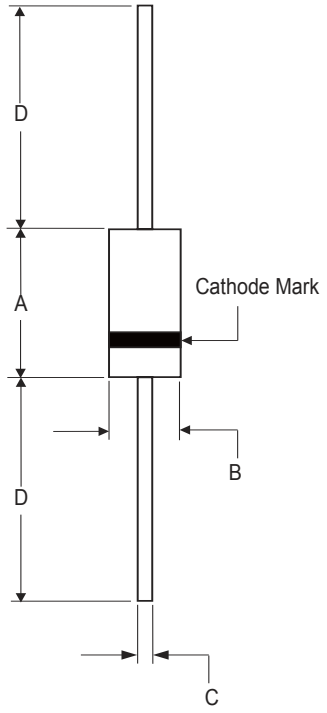
### Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|---|---|---|
| Average Forward Current | $I_{F(AV)}$ | 1.0A | $T_A$=55ºC |
| Peak Forward Surge Current | $I_{FSM}$ | 30A | 8.3ms,Half Sine |
| Maximum Instantaneous Forward Voltage<br>UF4001GP-UF4003GP<br>UF4004GP<br>UF4005GP-UF4007GP | $V_F$ | 1.0V<br>1.3V<br>1.7V | $I_{FM}$=1.0A;<br>$T_J$=25ºC* |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$ | 5.0μA<br>100μA | $T_J$=25ºC;<br>$T_J$=100ºC |
| Maximum Reverse Recovery Time<br>UF4001GP-UF4004GP<br>UF4005GP-UF4007GP | $t_{rr}$ | 50ns<br>75ns | $I_F$=0.5A; $I_R$=1.0A;<br>$I_{RR}$=0.25A |
| Typical Junction Capacitance<br>UF4001GP-UF4004GP<br>UF4005GP-UF4007GP | $C_J$ | 20pF<br>10pF | Measured at 1.0MHz<br>$V_R$=4.0V |

*Pulse Test: Pulse Width 300μsec, Duty Cycle 1%

Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

DO-41




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.160 | 0.205 | 4.10 | 5.20 | |
| B | 0.080 | 0.107 | 2.00 | 2.70 | Φ |
| C | 0.028 | 0.035 | 0.71 | 0.90 | Φ |
| D | 1.000 | ----- | 25.40 | ----- | |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

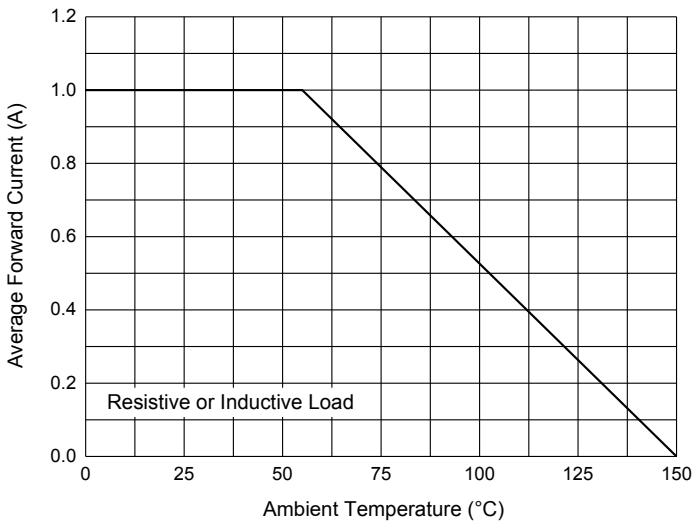



Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

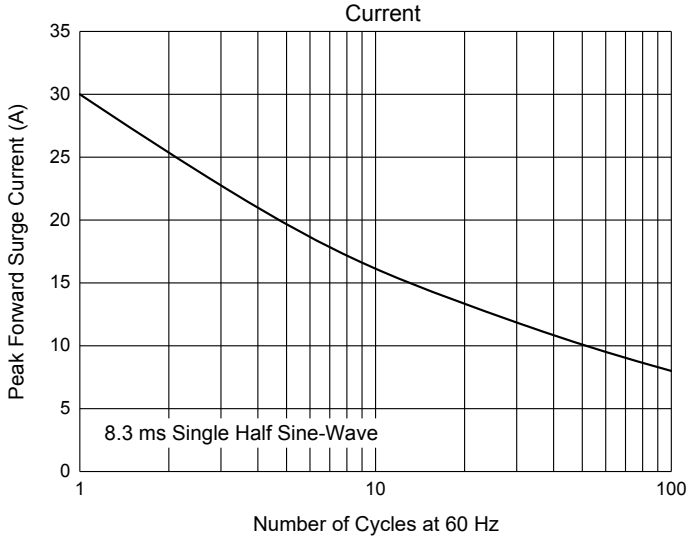



Fig. 3 - Typical Instantaneous Forward Characteristics

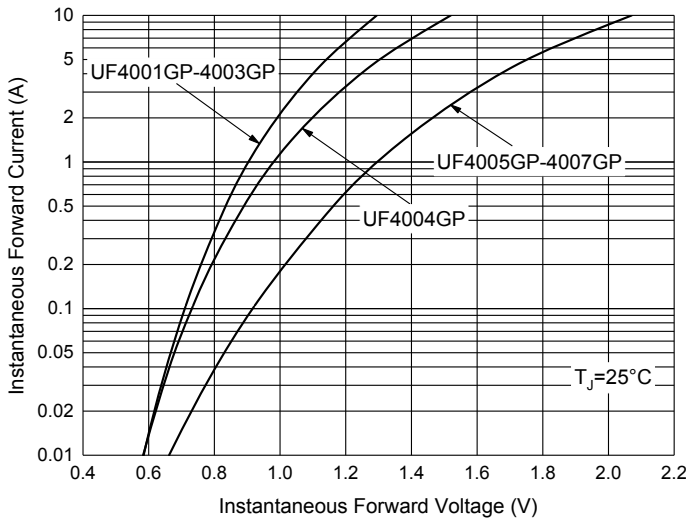
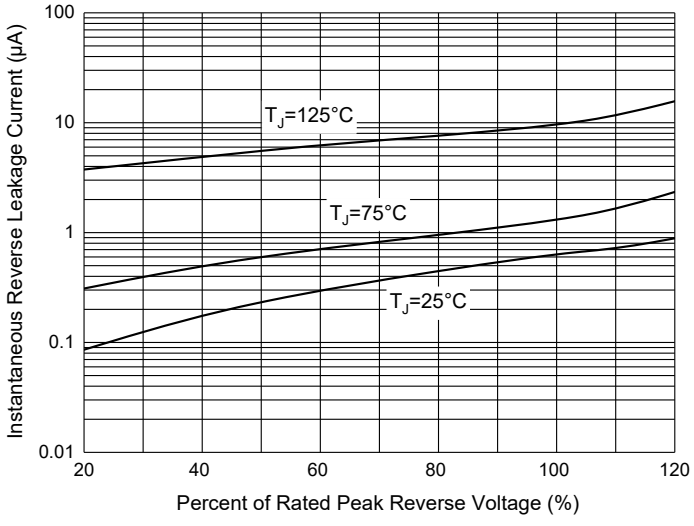



Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

| Device | Packing |
|---|---|
| (Part Number)-TP | Tape&Reel: 5Kpcs/Reel |
| (Part Number)-AP | Ammo Packing: 5Kpcs/Ammo Box |
| (Part Number)-BP | Bulk:1Kpcs/Box,50Kpcs/Carton |

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

*****IMPORTANT NOTICE*****

***Micro Commercial Components Corp***. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . ***Micro Commercial Components Corp*** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold ***Micro Commercial Components Corp*** . and all the companies whose products are represented on our website, harmless against all damages. ***Micro Commercial Components Corp***. products are sold subject to the general terms and conditions of commercial sale, as published at
**https://www.mccsemi.com/Home/TermsAndConditions.**

*****LIFE SUPPORT*****

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

*****CUSTOMER AWARENESS*****

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources**. MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.