# UF4001 THRU UF4007

1.0AMPSILICONRECTIFIERS

## FEATURES

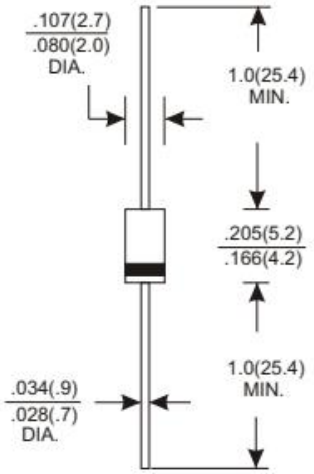
* Low forward voltage drop
* High current capability
* High reliability
* High surge current capability

## MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: Axial leads, solderable per MIL-STD-202, method 208 guranteed
* Polarity: Color band denotes cathode end
* Mounting position: Any
* Weight: 0.34 grams

VOLTAGE RANGE
50 to 1000 Volts
CURRENT
1.0 Ampere

DO-41




Dimensions in inches and (millimeters)

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter | Symbols | UF4001 | UF4002 | UF4003 | UF4004 | UF4005 | UF4006 | UF4007 | Units |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current 0.375"(9.5mm) Lead Length at $T_A$ = 55 °C | $I_{(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half-sine -wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$ | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A DC | $V_F$ | 1 | | | 1.3 | 1.7 | | | V |
| Maximum Reverse Current at Rated DC Blocking Voltage $T_A$ = 25 °C / $T_A$ = 100 °C | $I_R$ | 5 / 500 | | | | | | | μA |
| Typical Junction Capacitance [1] | $C_J$ | 17 | | | | | | | pF |
| Typical Thermal Resistance [2] | $R_{\theta JA}$ | 60 | | | | | | | °C/W |
| Maximum Reverse Recovery Time [3] | $t_{rr}$ | 50 | | | | 75 | | | ns |
| Operating and Storage Temperature Range | $T_J$ ,$T_S$ | -55 to +150 | | | | | | | °C |

[1] Measured at 1 MHz and applied reverse voltage of 4 V DC.
[2] Thermal resistance junction to ambient and from juntcion to lead at 0.375"(9.5mm) lead length P.C.B mounted.
[3] Reverse recovery test conditions: $I_F$ = 0.5 A, $I_R$ = 1 A, $I_{rr}$ = 0.25 A.

## RATING AND CHARACTERISTIC CURVES (UF4001 THRU UF4007)

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

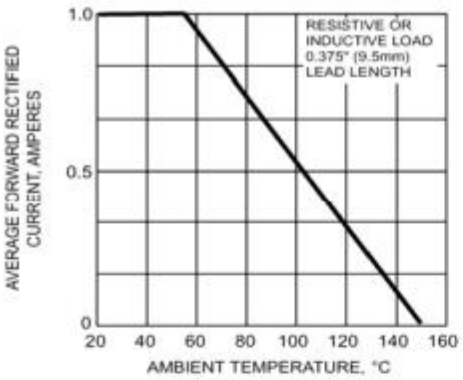



FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

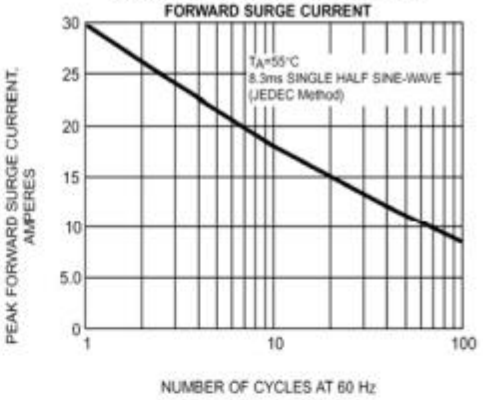



FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

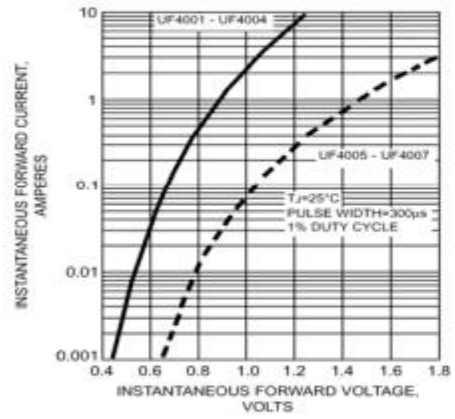



FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

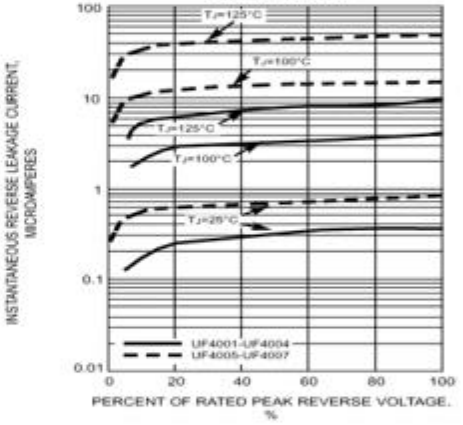



FIG. 5 - TYPICAL JUNCTION CAPACITANCE