

**UF4001  
THRU  
UF4007**

**Features**

- High Surge Capability
- Low Leakage
- Low Forward Voltage Drop
- Ultra Fast Switching Speed For High Efficiency

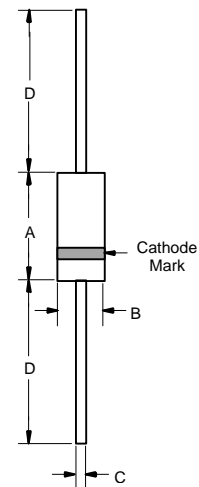
**Maximum Ratings**

- Operating Temperature: -65°C to +150°C
- Storage Temperature: -65°C to +150°C
- Typical Thermal Resistance 25°C/W

Microsemi Catalog Number	Device Marking	Maximum Reccurent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
UF4001	---	50V	35V	50V
UF4002	---	100V	70V	100V
UF4003	---	200V	140V	200V
UF4004	---	400V	280V	400V
UF4005	---	600V	420V	400V
UF4006	---	800V	560V	800V
UF4007	---	1000V	700V	1000V

**1 Amp Ultra Fast  
Recovery Rectifier  
50 to 1000 Volts**

**DO-41**



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

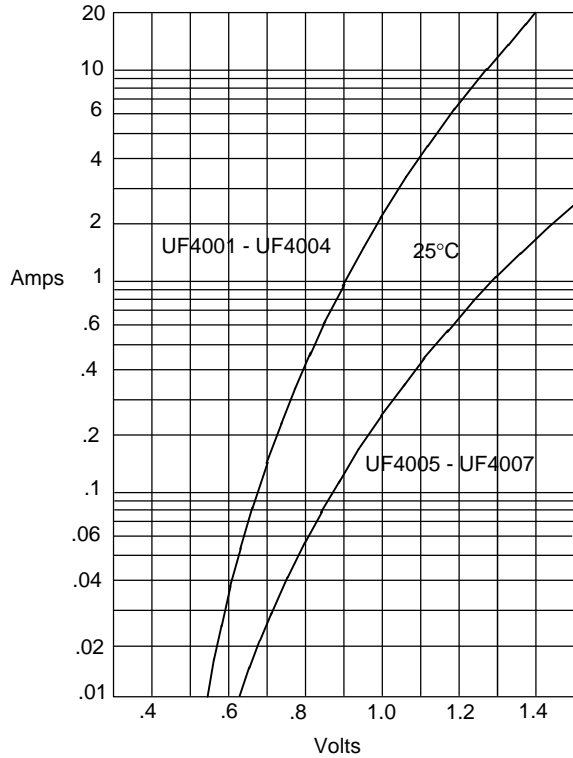
Average Forward Current	$I_{F(AV)}$	1 A	$T_A = 55^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage UF4001-4004 UF4005-4007	$V_F$	1.0V 1.4V	$I_{FM} = 1.0\text{A};$ $T_A = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	10 $\mu\text{A}$ 50 $\mu\text{A}$	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$
Maximum Reverse Recovery Time UF4001-4004 UF4005-4007	$T_{rr}$	50ns 75ns	$I_F=0.5\text{A}, I_R=1.0\text{A},$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance UF4001-4004 UF4005-4007	$C_J$	20pF 15pF	Measured at 1.0MHz, $V_R=4.0\text{V}$

DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.166	.205	4.10	5.20	
B	.080	.107	2.00	2.70	
C	.028	.034	.70	.90	
D	1.000	---	25.40	---	

\*Pulse Test: Pulse Width 300 $\mu\text{sec}$ , Duty Cycle 1%

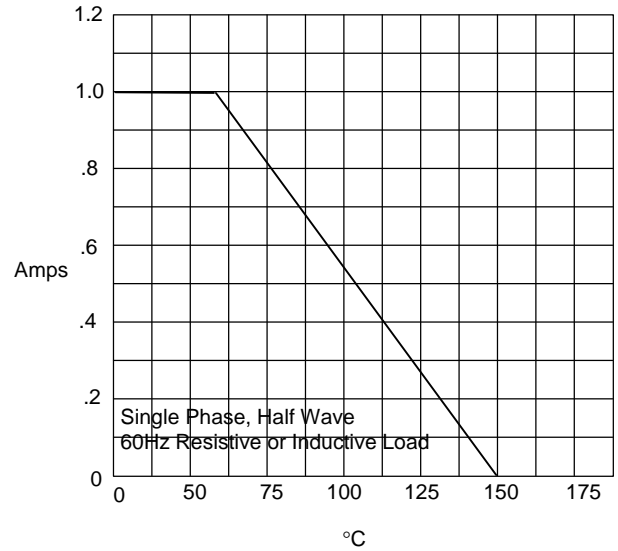
# UF4001 thru UF4007

Figure 1  
Typical Forward Characteristics



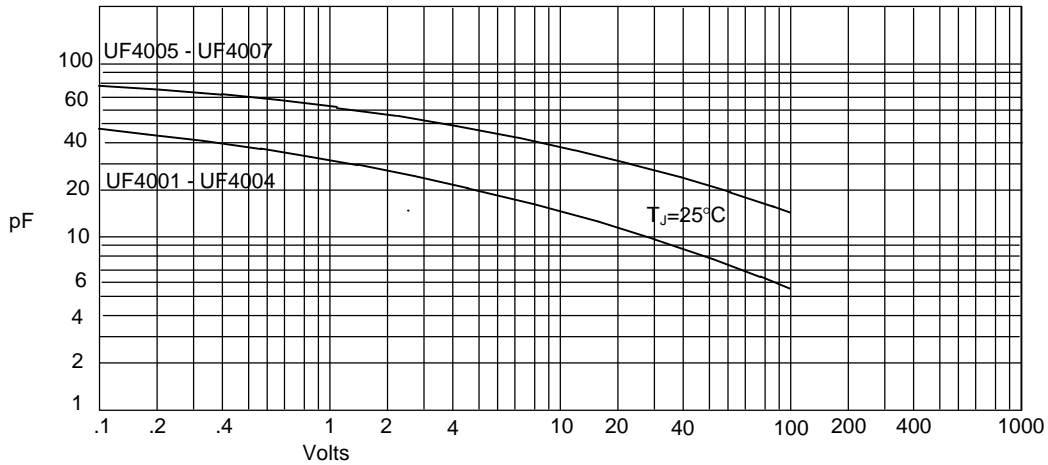
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Average Forward Rectified Current - Amperes versus  
Ambient Temperature - °C

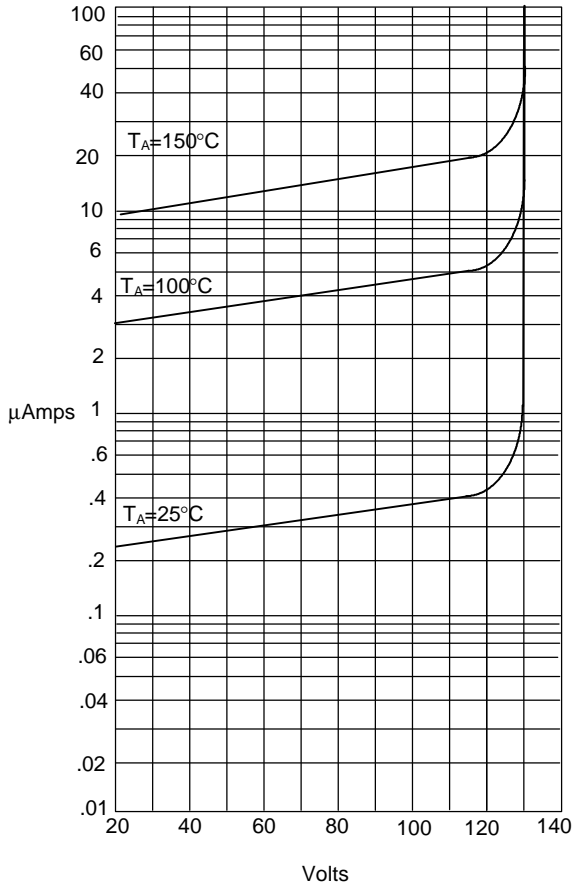
Figure 3  
Junction Capacitance



Junction Capacitance - pF versus  
Reverse Voltage - Volts

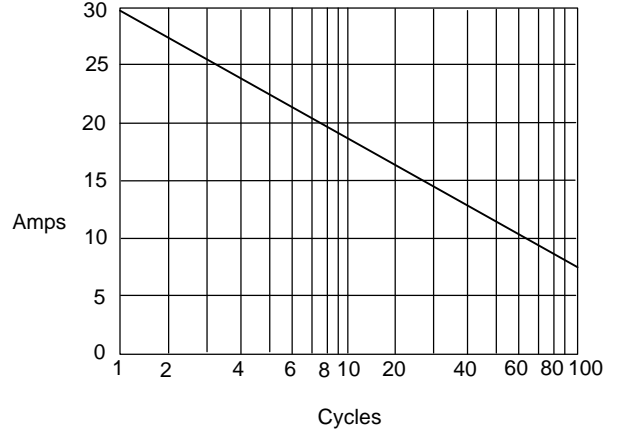
# UF4001 thru UF4007

Figure 4  
Typical Reverse Characteristics



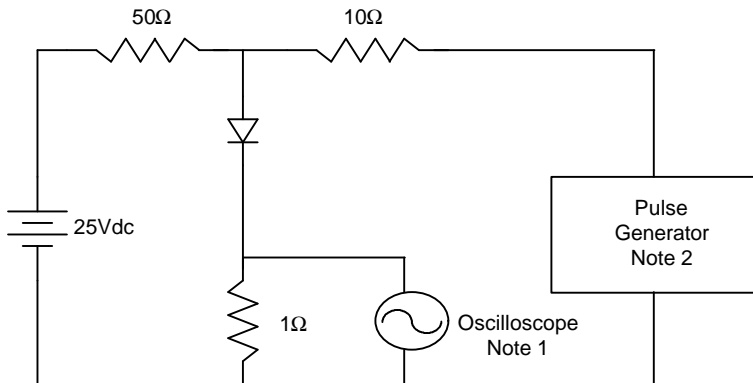
Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5  
Peak Forward Surge Current

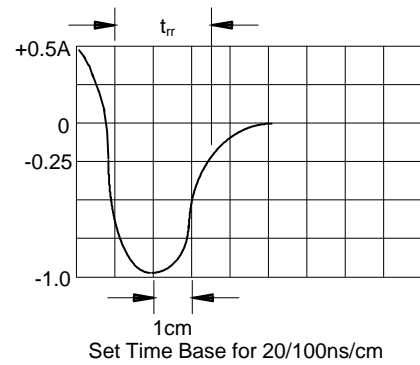


Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

Figure 6  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.  
Input impedance = 1 megohm, 22pF
  2. Rise Time = 10ns max.  
Source impedance = 50 ohms
  3. Resistors are non-inductive



Set Time Base for 20/100ns/cm