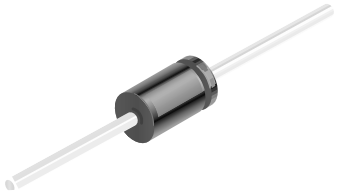
FAIRCHILD
SEMICONDUCTOR®

UF4001 - UF4007

Features

- Low forward voltage drop.
- High surge current capability.
- High reliability.
- High current capability.



DO-41
COLOR BAND DENOTES CATHODE

Fast Rectifiers (Glass Passivated)

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value							Units
		4001	4002	4003	4004	4005	4006	4007	
V_{RRM}	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Rectified Forward Current, .375 " lead length @ T_A = 75°C	1.0							A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30							A
T_{stg}	Storage Temperature Range	-65 to +150							°C
T_J	Operating Junction Temperature	-65 to +150							°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
P_D	Power Dissipation	2.08	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	60	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	15	°C/W

Electrical Characteristics

T_A = 25°C unless otherwise noted

Symbol	Parameter	Device							Units
		4001	4002	4003	4004	4005	4006	4007	
V_F	Forward Voltage @ 1.0 A	1.0				1.7			V
t_{rr}	Reverse Recovery Time I_F = 0.5 A, I_R= 1.0 A, I_{RR} = 0.25 A	50				75			ns
I_R	Reverse Current @ rated V_R T_A = 25°C T_A = 100°C	10 50							µA µA
C_T	Total Capacitance V_R = 4.0 V, f = 1.0 MHz	17							pF

Typical Characteristics

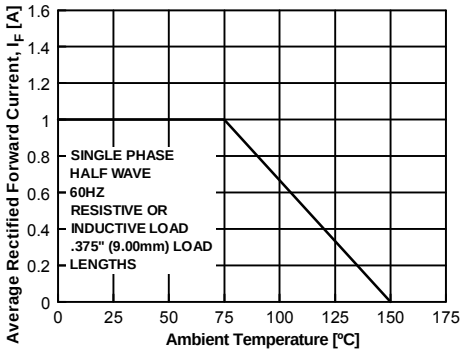


Figure 1. Forward Current Derating Curve

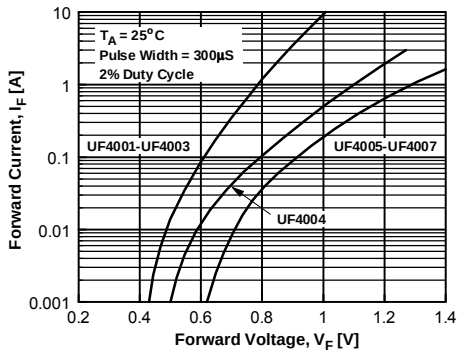


Figure 2. Forward Voltage Characteristics

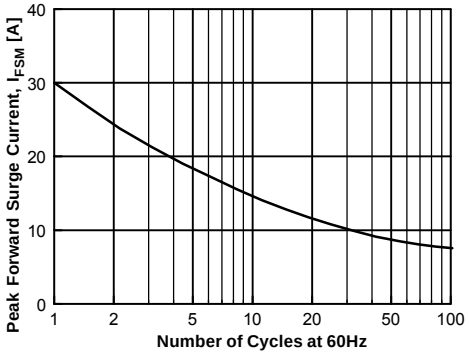


Figure 3. Non-Repetitive Surge Current

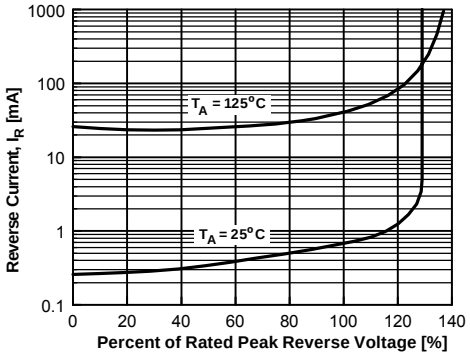


Figure 4. Reverse Current vs Reverse Voltage

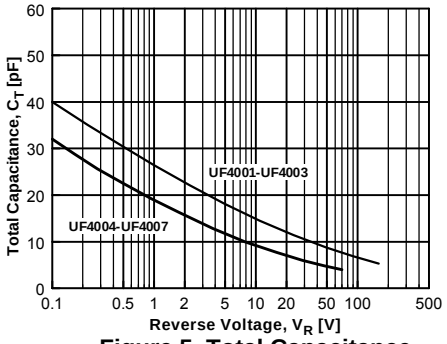
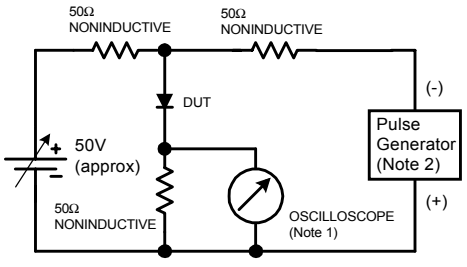
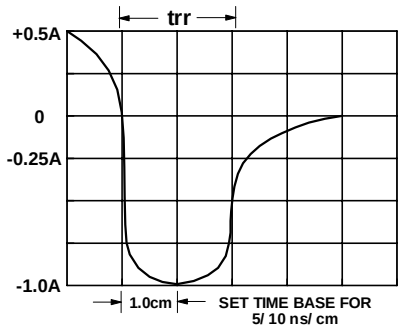


Figure 5. Total Capacitance



NOTES:
1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.



Reverse Recovery Time Characterstic and Test Circuit Diagram

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