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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





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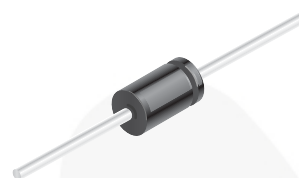


August 2016

# UF4001 - UF4007 Fast Rectifiers

## Features

- Low Forward Voltage Drop
- High Surge Current Capability
- High Reliability
- High Current Capability
- Glass-Passivated Junction



**DO-41 (Plastic)**  
COLOR BAND DENOTES CATHODE

## Ordering Information

Part Number	Top Mark	Package	Packing Method
UF4001	UF4001	DO-204AL (DO-41)	Tape and Reel
UF4002	UF4002	DO-204AL (DO-41)	Tape and Reel
UF4003	UF4003	DO-204AL (DO-41)	Tape and Reel
UF4004	UF4004	DO-204AL (DO-41)	Tape and Reel
UF4005	UF4005	DO-204AL (DO-41)	Tape and Reel
UF4006	UF4006	DO-204AL (DO-41)	Tape and Reel
UF4007	UF4007	DO-204AL (DO-41)	Tape and Reel

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value							Unit
		UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 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 at $T_A = 75^\circ\text{C}$	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							$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-65 to +150							$^\circ\text{C}$

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation	2.08	W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	60	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction-to-Lead	30	$^\circ\text{C}/\text{W}$

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Value						Unit
			UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	
$V_F$	Maximum Forward Voltage	$I_F = 1.0\text{ A}$	1.0			1.7			V
$t_{rr}$	Maximum Reverse Recovery Time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RR} = 0.25\text{ A}$	50			75			ns
$I_R$	Maximum Reverse Current at Rated $V_R$	$T_A = 25^\circ\text{C}$	10						$\mu\text{A}$
		$T_A = 100^\circ\text{C}$	50						
$C_T$	Maximum Total Capacitance	$V_R = 4.0\text{ V}$ , $f = 1.0\text{ MHz}$	17						pF

## Typical Performance Characteristics

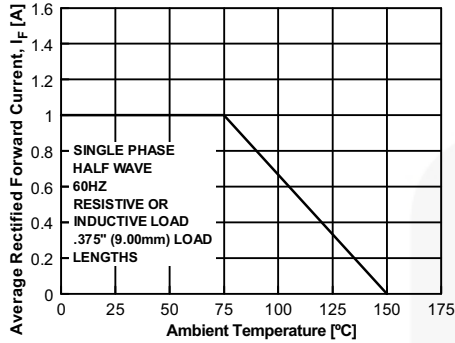


Figure 1. Forward Current Derating Curve

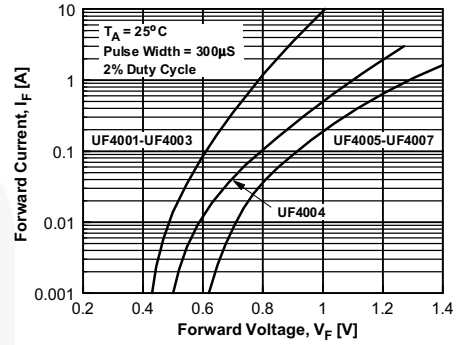


Figure 2. Forward Characteristics

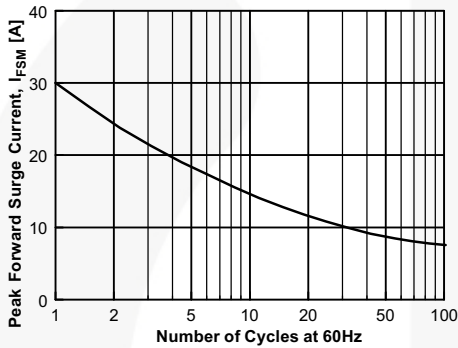


Figure 3. Non-Repetitive Surge Current

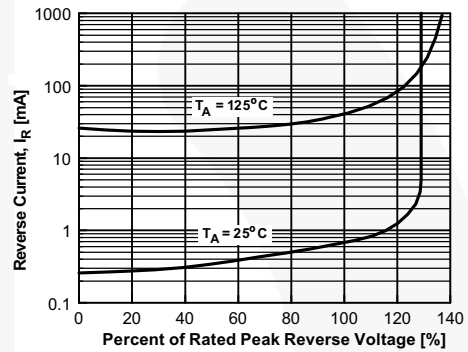


Figure 4. Reverse Characteristics

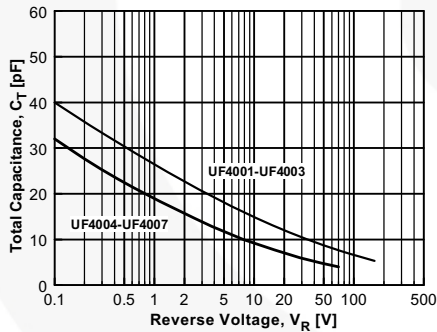
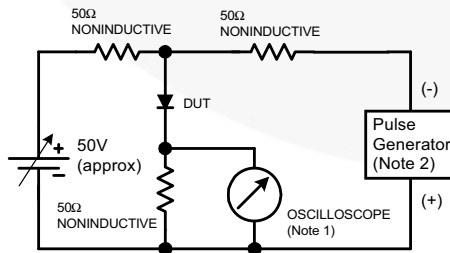


Figure 5. Typical Junction Capacitance



- 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.

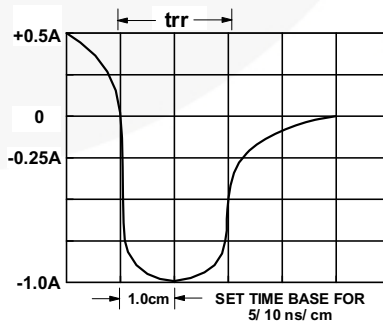
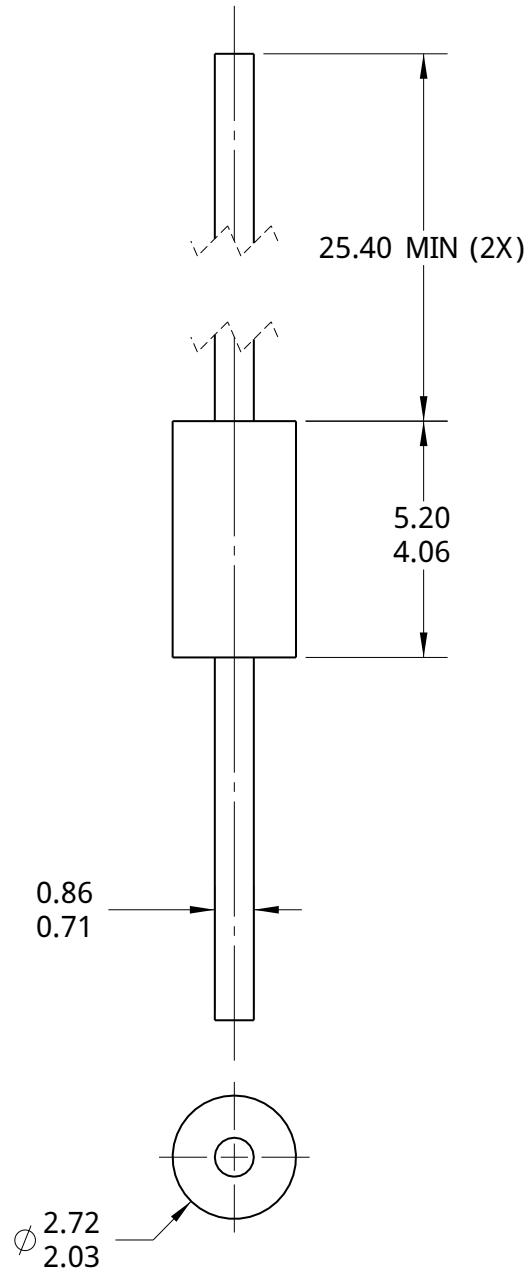


Figure 6. Reverse Recovery Time Characteristic and Test Circuit Diagram

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REVISIONS

NBR	DESCRIPTION	DATE	BY/APP'D
1	RELEASED TO DCC	29JUL08	HYANG/SUZHOU
2	CHANGE 5.20 TO 5.21. CHANGE NOTE "B" ADDED PLASTIC BODY. REMOVE "GLASS" ON TITLE.	19SEP08	HYANG/SUZHOU



NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE STANDARD REFERENCE: JEDEC DO-204 VARIATION AL.
- B) PACKAGE BODY CAN BE PLASTIC OR HERMETICALLY SEALED GLASS .
- D) ALL DIMENSIONS ARE IN MILLIMETERS.
- E) DRAWING FILE NAME: DO41AREV2

APPROVALS		DATE		
DRAWN:	BOBOY MALDO	19SEP08		
CHECKED:	HENRY YANG			
APPROVED:	BY HUANG			
APPROVED:	HOWARD ALLEN			
PROJECTION			AXIAL LEADED, JEDEC DO204, VARIATION AL	
SCALE	SIZE	DRAWING NUMBER	REV	
1:1	N/A	MKT-DO41A	2	
FORMERLY: N/A			SHEET: 1 OF 1	

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