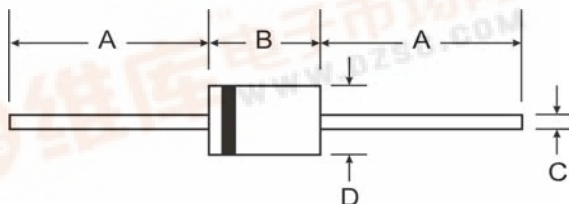


UF1001 - UF1007

1.0A ULTRA-FAST RECTIFIER

Features

- Diffused Junction
- Ultra-Fast Switching for High Efficiency
- Low Reverse Leakage Current
- Surge Overload Rating to 30A Peak
- IEC 61000-4-2 (ESD - 150pF/330Ω)
- UF1001 – UF1003: Contact: discharge - $\pm 15\text{kV}$
- Lead Free Finish, RoHS Compliant (Note 4)



Mechanical Data

- Case: DO-41
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Page
- Weight: 0.35 grams (approximate)

DO-41		
Dim	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	UF 1001	UF 1002	UF 1003	UF 1004	UF 1005	UF 1006	UF 1007	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V _{RWM}								
DC Blocking Voltage (Note 5)	V _R								
RMS Reverse Voltage	V _{R(RMS)}	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @ T _A = 55°C	I _O	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I _{FSM}	30							A
Forward Voltage @ I _F = 1.0A	V _{FM}	1.0			1.3	1.7			V
Peak Reverse Current @ T _A = 25°C	I _{RM}	5.0							μA
at Rated DC Blocking Voltage (Note 5) @ T _A = 100°C		100							
Reverse Recovery Time (Note 3)	t _{rr}	50				75			ns
Typical Total Capacitance (Note 2)	C _T	20				10			pF
Typical Thermal Resistance Junction to Ambient	R _{θJA}	95							°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150							°C

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Measured with I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A. See figure 5.
 4. RoHS revision 13.2.2003. High temperature solder exemption applied, see EU Directive Annex Note 7.
 5. Short duration pulse test used to minimize self-heating effect.

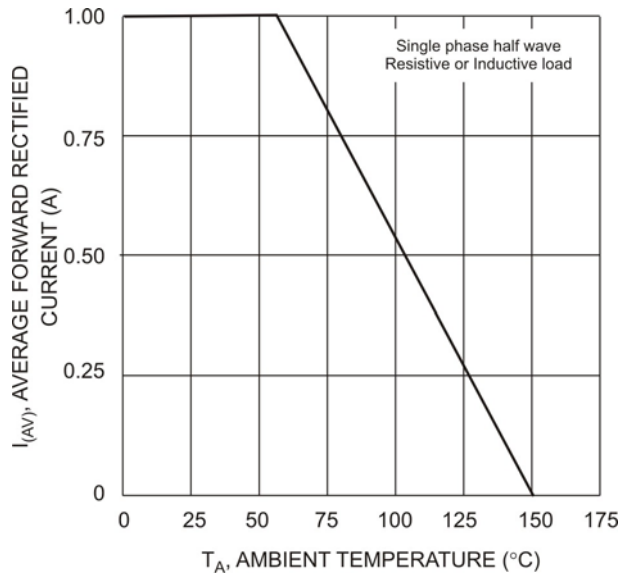


Fig. 1 Forward Current Derating Curve

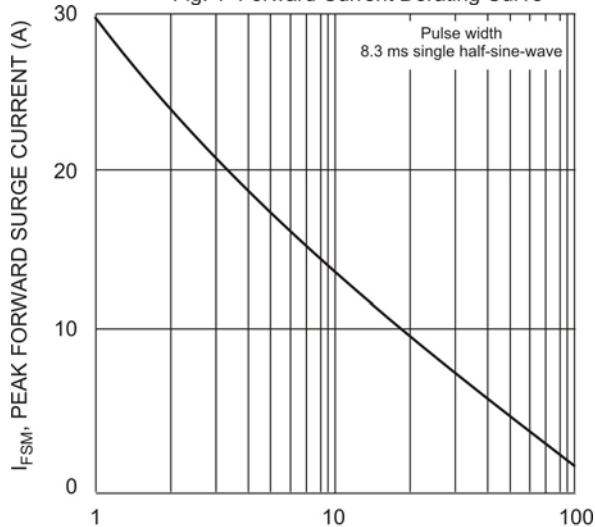
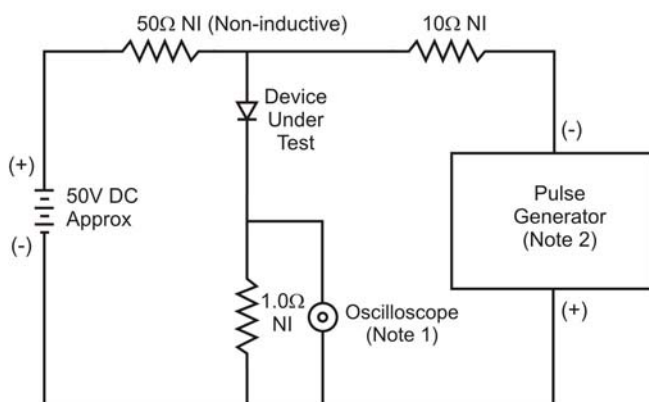


Fig. 3 Peak Forward Surge Current



Notes:

1. Rise Time = 7.0ns max. Input Impedance = 1.0M Ω , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 Ω .

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

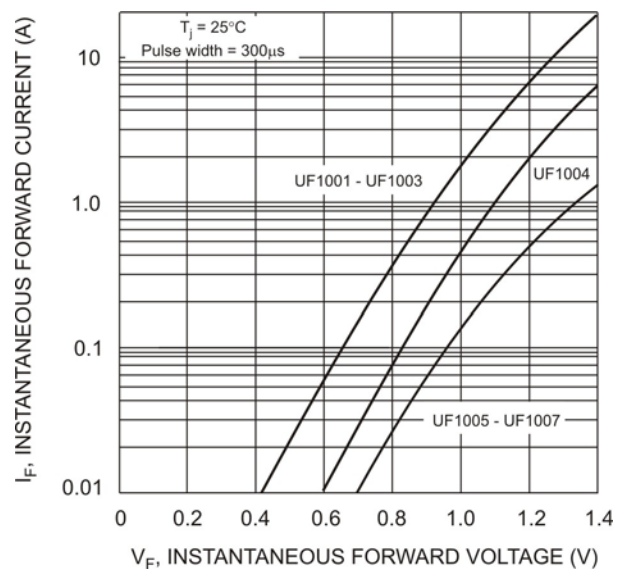


Fig. 2 Typical Forward Characteristics

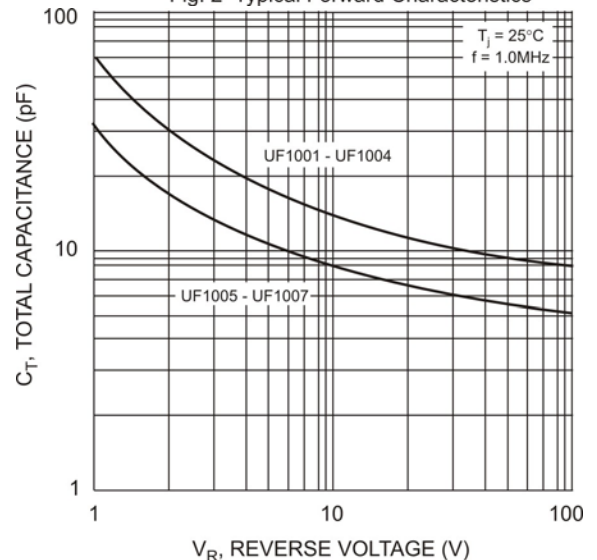
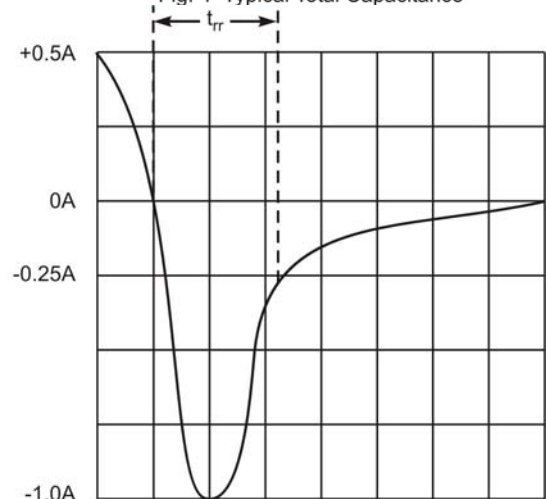


Fig. 4 Typical Total Capacitance



Set time base for 50/100 ns/cm



Ordering Information (Note 6)

Device	Packaging	Shipping
UF1001-A	DO-41	5K/Ammo Pack
UF1001-B	DO-41	1K/Bulk
UF1001-T	DO-41	5K/Tape & Reel, 13-inch
UF1002-A	DO-41	5K/Ammo Pack
UF1002-B	DO-41	1K/Bulk
UF1002-T	DO-41	5K/Tape & Reel, 13-inch
UF1003-A	DO-41	5K/Ammo Pack
UF1003-B	DO-41	1K/Bulk
UF1003-T	DO-41	5K/Tape & Reel, 13-inch
UF1004-A	DO-41	5K/Ammo Pack
UF1004-B	DO-41	1K/Bulk
UF1004-T	DO-41	5K/Tape & Reel, 13-inch
UF1005-A	DO-41	5K/Ammo Pack
UF1005-B	DO-41	1K/Bulk
UF1005-T	DO-41	5K/Tape & Reel, 13-inch
UF1006-A	DO-41	5K/Ammo Pack
UF1006-B	DO-41	1K/Bulk
UF1006-T	DO-41	5K/Tape & Reel, 13-inch
UF1007-A	DO-41	5K/Ammo Pack
UF1007-B	DO-41	1K/Bulk
UF1007-T	DO-41	5K/Tape & Reel, 13-inch

Notes: 6. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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