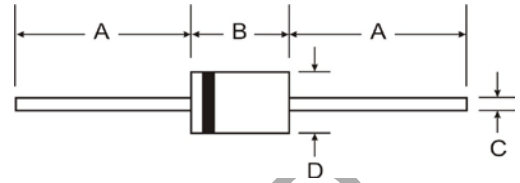


## Features

- 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 - ±15kV
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**



## 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 @3
- 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 @ $T_A = 25^\circ\text{C}$ 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 6)	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 3) @ $T_A = 55^\circ\text{C}$	$I_O$	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 @ $I_F = 1.0\text{A}$	$V_{FM}$	1.0		1.3		1.7			V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 6) @ $T_A = 100^\circ\text{C}$	$I_{RM}$	5.0 100							$\mu\text{A}$
Reverse Recovery Time (Note 4)	$t_{rr}$	50				75			ns
Typical Total Capacitance (Note 3)	$C_T$	20				10			pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	95							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150							$^\circ\text{C}$

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3).compliant. All applicable RoHS exemptions applied
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free
  3. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  5. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$ . See figure 5.
  6. Short duration pulse test used to minimize self-heating effect.

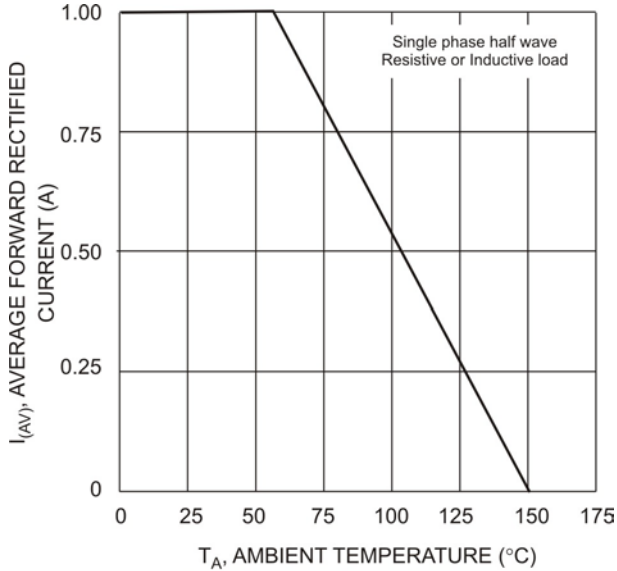


Fig. 1 Forward Current Derating Curve

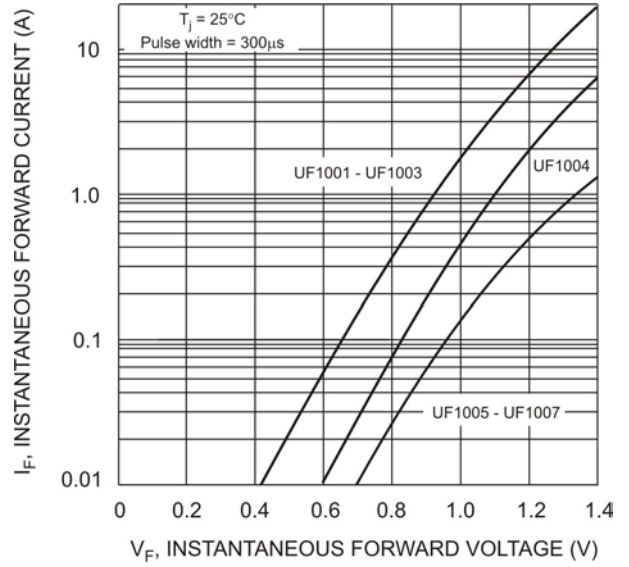


Fig. 2 Typical Forward Characteristics

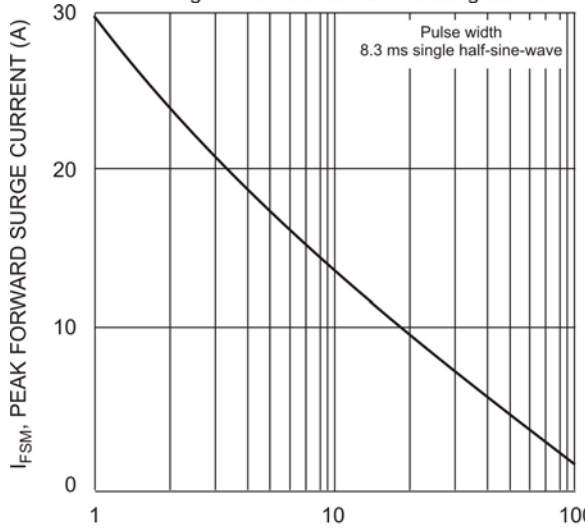


Fig. 3 Peak Forward Surge Current

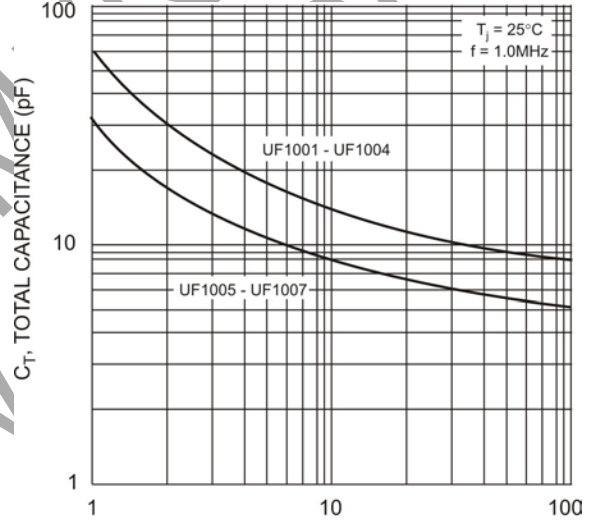
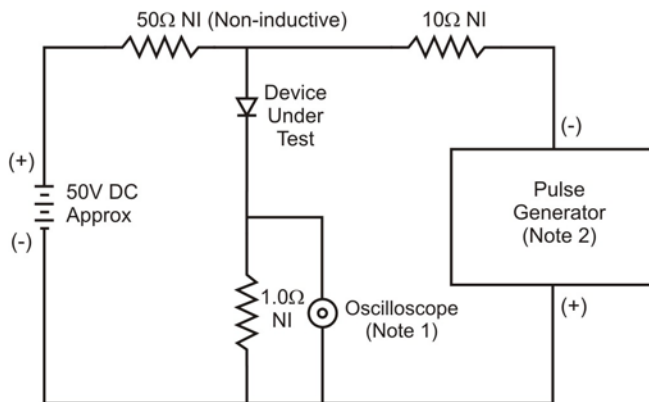
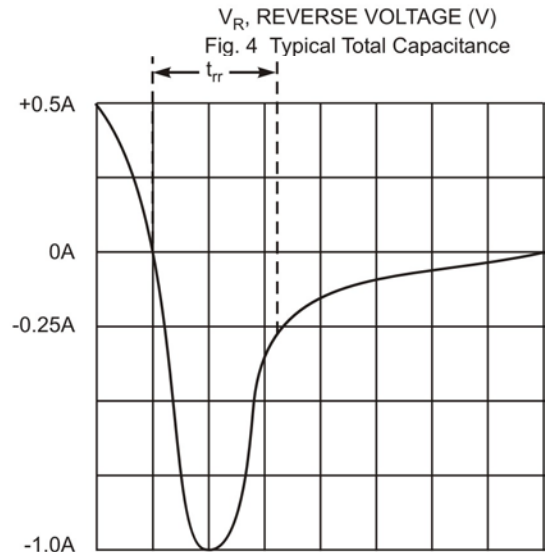


Fig. 4 Typical Total Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

**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: 7. For packaging details, visit our website at <http://www.diodes.com/package-outlines.html>.

NOT RECOMMENDED FOR NEW DESIGN

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