

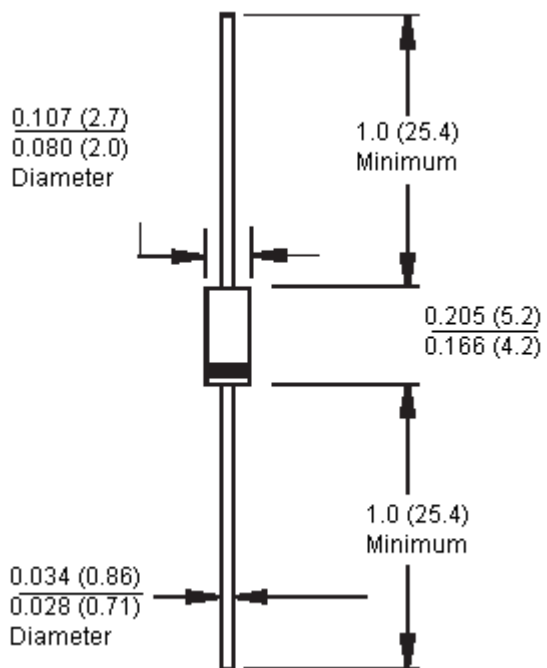


**RoHS
Compliant**

Features:

- Plastic package.
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes.
- Glass passivated chip junction.
- Excellent high temperature switching.
- Ultrafast recovery time for high efficiency.
- Soft recovery characteristics.
- High temperature soldering guaranteed: 260°C/10 seconds/0.375 inch, (9.5mm) lead lengths at 5lbs., (2.3kg) tension.

DO-41 / DO-204AL



Dimensions : Inches (Millimetres)

Mechanical Data:

Cases	: JEDEC DO-204AL moulded plastic body over passivated chip.
Terminals	: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026.
Polarity	: Colour band denotes cathode end.
Mounting Position	: Any.
Weight	: 0.012 ounce, 0.34 gram.

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Type Number	Symbol	UF1A	UF1B	UF1D	UF1G	UF1J	UF1K	UF1M	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	
Maximum Average Forward Rectified Current 0.375 (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30							
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.0				1.7			V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	I_R					5.0 150			μA μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	50				75			nS
Typical Junction Capacitance (Note 2)	C_j	17							pF
Typical Thermal Resistance (Note3)	$R_{\theta JA}$ $R_{\theta JL}$					60 15			$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

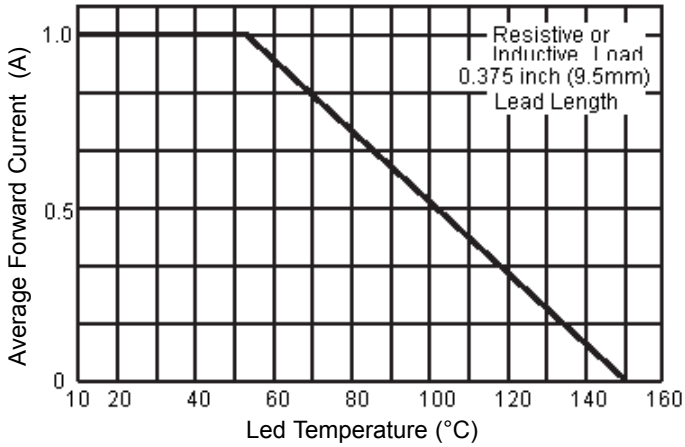
Note: 1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$.

2. Measured at 1MHz and Applied Reverse Voltage of 4.0V dc.

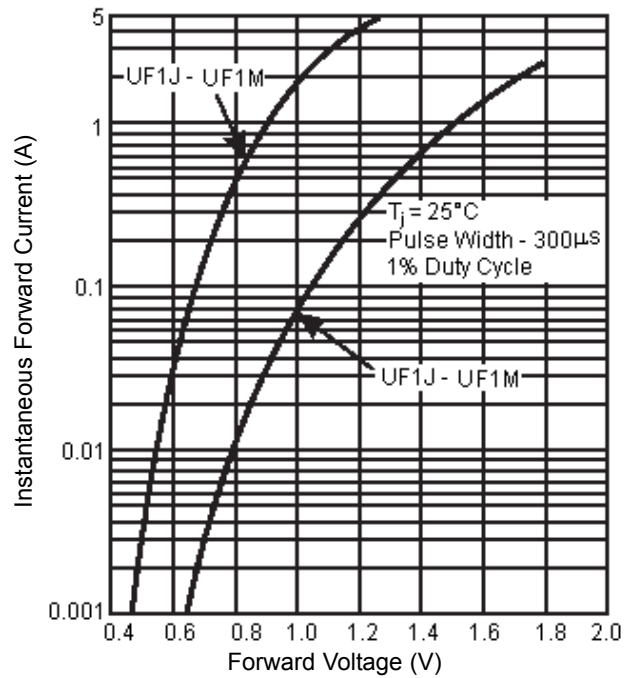
3. Thermal Resistance from junction to ambient and from Junction to Lead length 0.375 inch (9.5mm),
Mounted on 0.2 x 0.2 inches (5mm x 5mm) Cu pads.

Ratings and Characteristic Curves (UF1A, UF1B, UF1D, UF1G, UF1J, UF1K, UF1M)

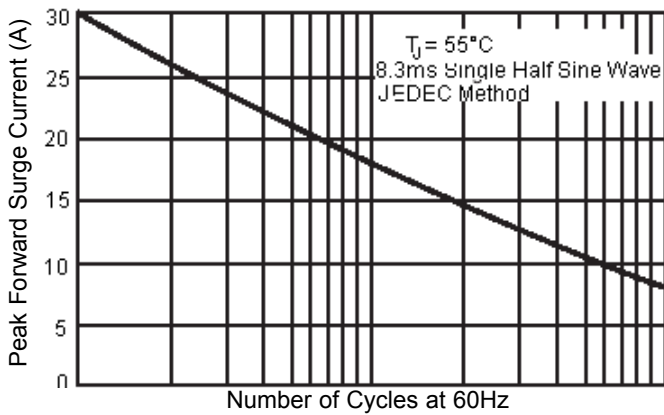
Maximum Forward Current Derating Curve



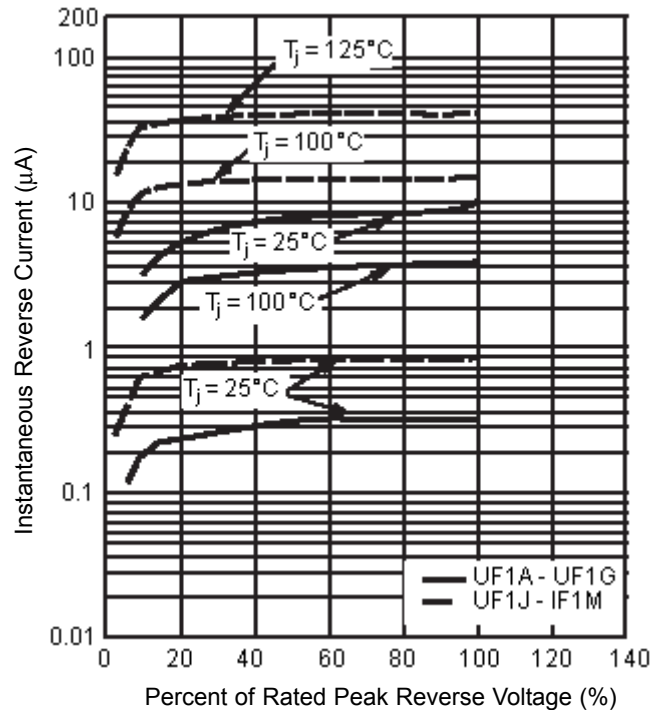
Typical Forward Characteristics



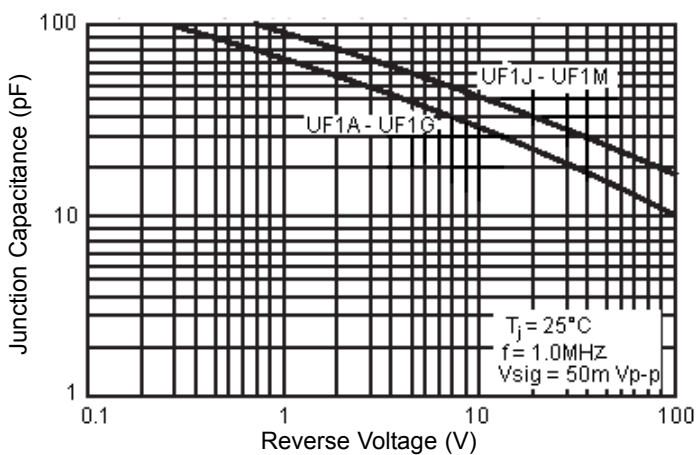
Maximum Non-Repetitive Forward Surge Current



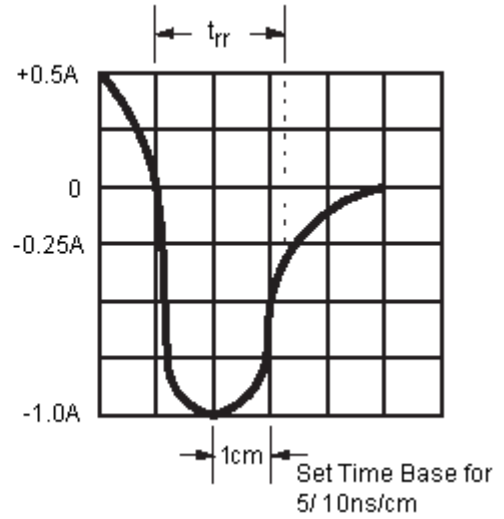
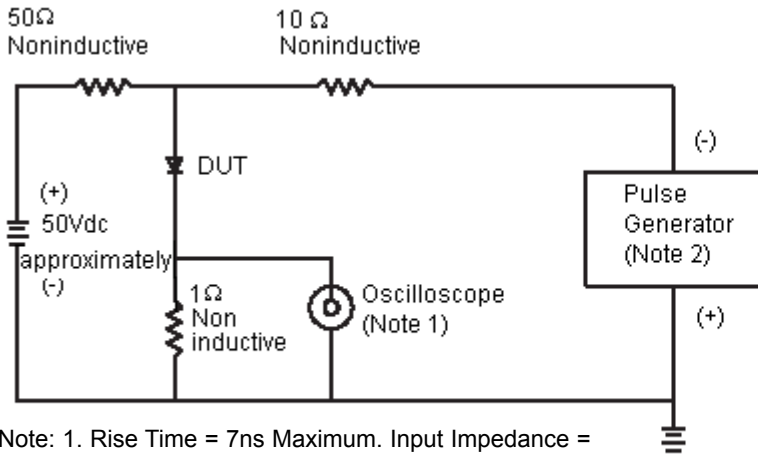
Typical Reverse Characteristics



Typical Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram



- Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1 Megohm 22pf
 2. Rise Time = 10ns Maximum Source Impedance = 50 ohms

Part Number Table

Description	Part Number
Diode, Ultra-Fast, 1A, 50V	UF1A
Diode, Ultra-Fast, 1A, 100V	UF1B
Diode, Ultra-Fast, 1A, 200V	UF1D
Diode, Ultra-Fast, 1A, 400V	UF1G
Diode, Ultra-Fast, 1A, 600V	UF1J
Diode, Ultra-Fast, 1A, 800V	UF1K
Diode, Ultra-Fast, 1A, 1000V	UF1M

Notes:

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