



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", (9.5mm) lead lengths at 5lbs., (2.3kg) tension

Specifications:

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	: 0.012oz, 0.34g

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%.

Parameters	Symbol	UF1A	UF1B	UF1D	UF1G	UF1J	UF1K	UF1M	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1,000	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	1,000	
Maximum Average Forward Rectified Current 0.375 (9.5mm) Lead Length at T _A = 55°C	I _(AV)	1							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 1A	V _F	1				1.7			V

Ultra Fast Diode

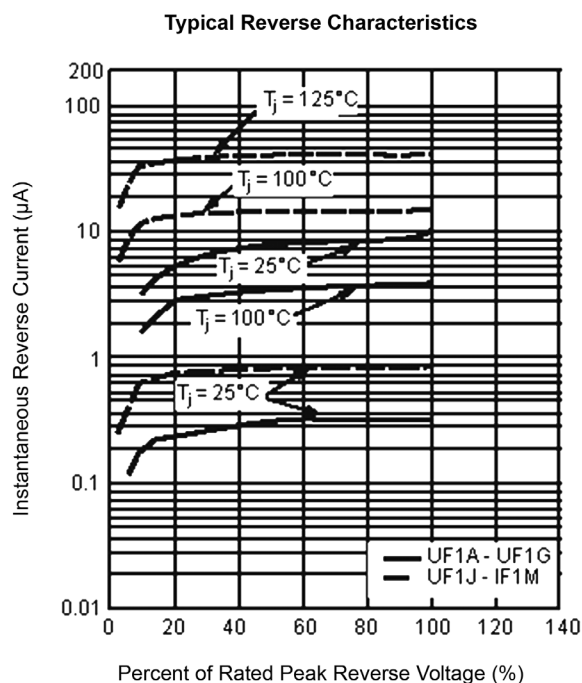
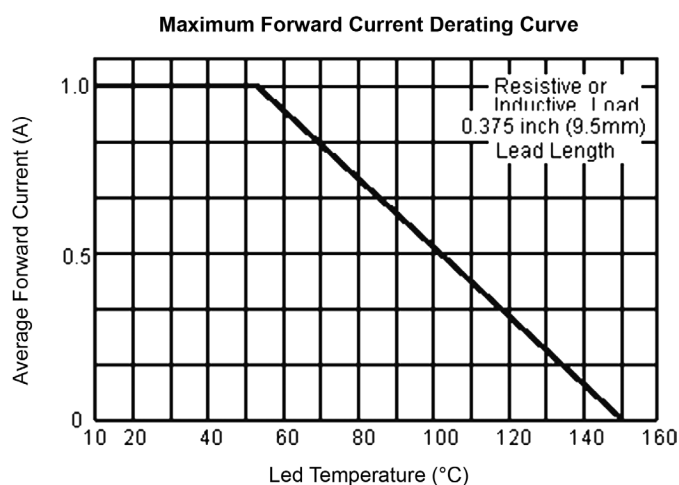


Parameters	Symbol	UF1A	UF1B	UF1D	UF1G	UF1J	UF1K	UF1M	Units
Maximum DC Reverse Current at T _A = 25°C at Rated DC Blocking Voltage at T _A = 125°C	I _R	5 150							μA μA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	50				75			nS
Typical Junction Capacitance (Note 2)	C _j	17							pF
Typical Thermal Resistance (Note 3)	R _{θJA} R _{θJL}	60 15							°C/W
Operating Junction Temperature Range	T _J , T _{STG}	-55 to +150							°C

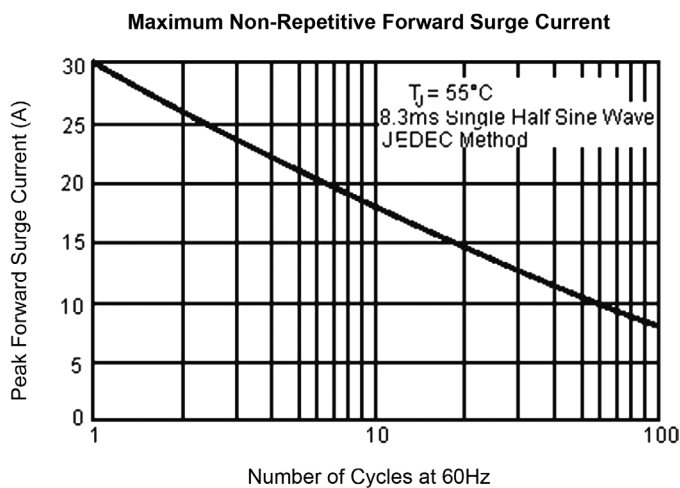
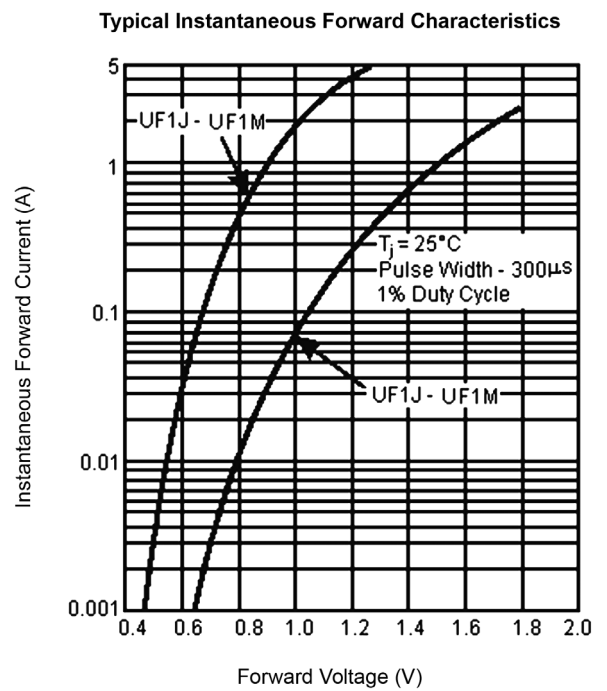
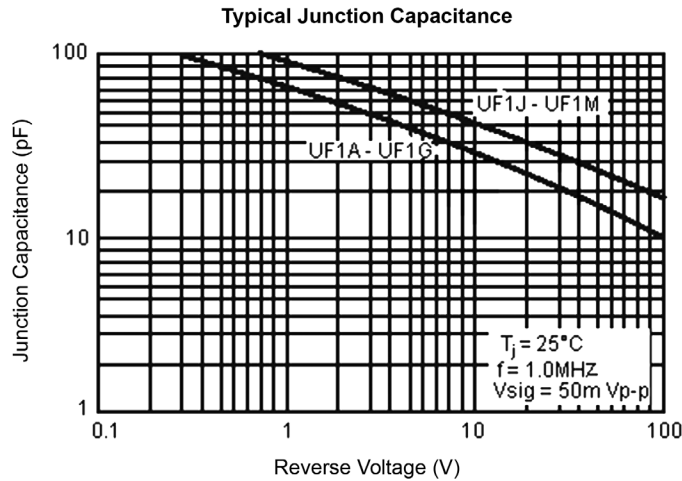
Notes:

- Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$.
- Measured at 1MHz and Applied Reverse Voltage of 4V DC.
- Thermal Resistance from junction to ambient and from Junction to Lead length 0.375 inch (9.5mm), Mounted on 0.2" x 0.2" (5mm x 5mm) Cu pads.

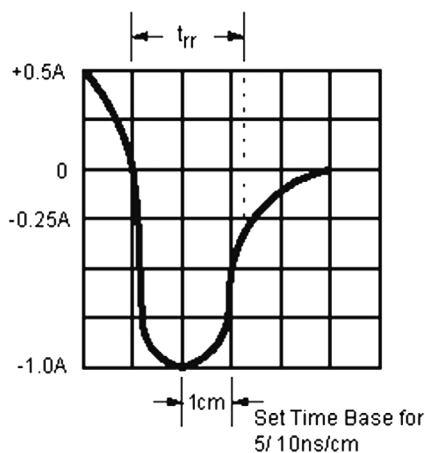
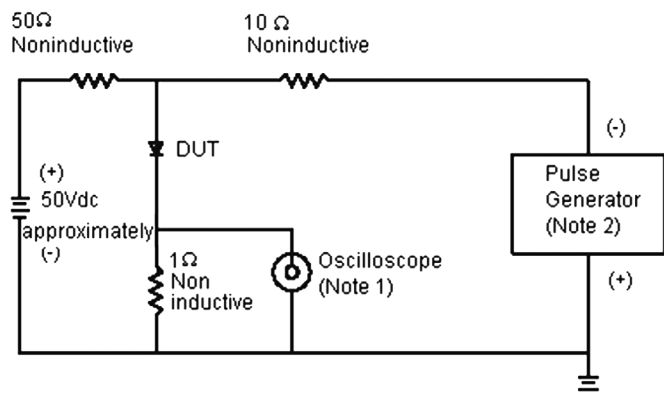
Ratings and Characteristic Curves



Ultra Fast Diode



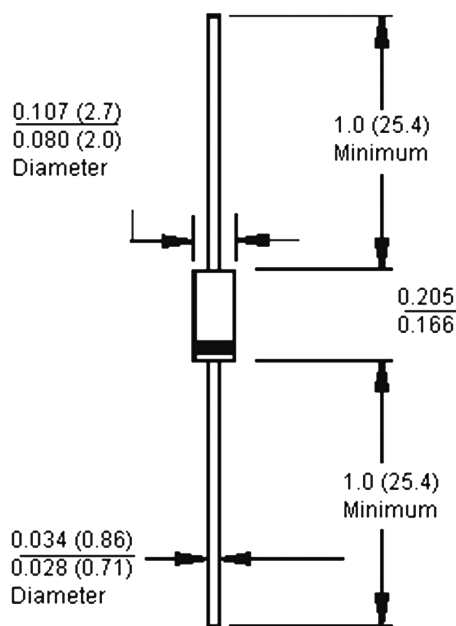
Reverse Recovery Time Characteristic and Test Circuit Diagram



Notes:

1. Rise Time = 7ns Maximum. Input Impedance = 1MΩ 22pf
2. Rise Time = 10ns Maximum Source Impedance = 50Ω

DO-41 / DO-204AL



Dimensions : Inches (Millimetres)

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, 1,000V	UF1M

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