Ultra Fast Diode

multicomp

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

Specifications:

Mechanical Data:

Cases: JEDEC DO-204AL moulded plastic body over passivated chipTerminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026Polarity: Colour band denotes cathode endMounting Position: AnyWeight: 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	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
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				
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	30					A		
Maximum Instantaneous Forward Voltage at 1A	V _F	1 1.7					V		







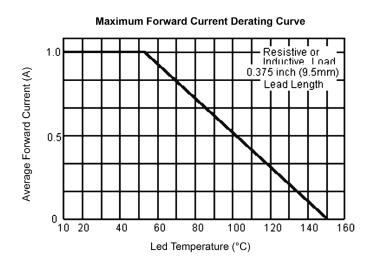
Parameters	Symbol	UF1A	UF1B	UF1D	UF1G	UF1J	UF1K	UF1M	Units
Maximum DC Reverse Current at $T_A = 25^{\circ}C$ at Rated DC Blocking Voltage at $T_A = 125^{\circ}C$	I _R				5 150				μΑ μΑ
Maximum Reverse Recovery Time (Note 1)	T _{rr}		5	50			75		nS
Typical Junction Capacitance (Note 2)	Cj				17				pF
Typical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

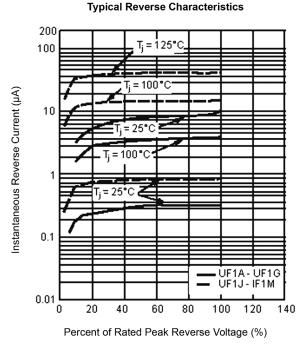
Notes:

1. Reverse Recovery Test Conditions: I_F = 0.5A, I_R = 1A, I_{RR} = 0.25A.

- 2. 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" × 0.2" (5mm × 5mm) Cu pads.

Ratings and Characteristic Curves

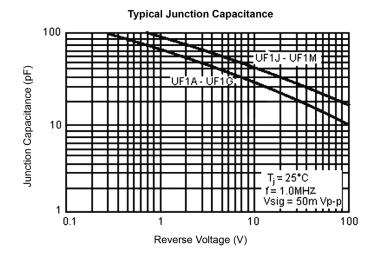




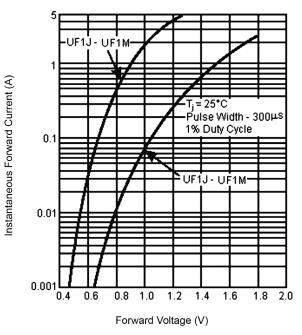


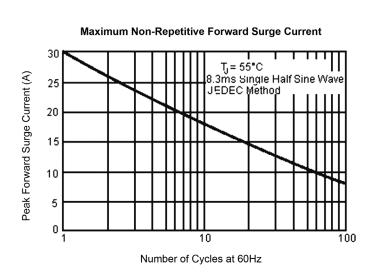
Ultra Fast Diode





Typical Instantaneous Forward Characteristics



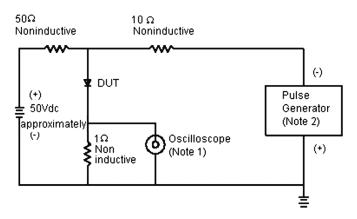




Ultra Fast Diode



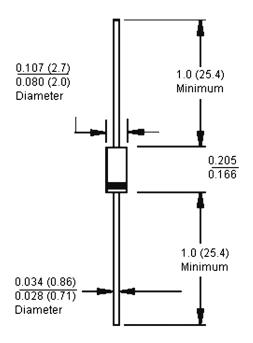
Reverse Recovery Time Characteristic and Test Circuit Diagram



Notes:

1. Rise Time = 7ns Maximum. Input Impedance = $1M\Omega$ 22pf 2. Rise Time = 10ns Maximum Source Impedance = 50Ω

DO-41 / DO-204AL



Description

Part Number Table

t_{rr}

→ 1cm |-

Set Time Base for

5/10ns/cm

+0.5A

-0.25A

-1.0A

0

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			

Dimensions : Inches (Millimetres)

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