

Ultra Fast Diode



RoHS
Compliant



Features:

- Fast reverse recovery time, t_{rr}
- Low forward voltage, V_F
- Low cost axial packages
- Void-free plastic in DO-41 package
- 1 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Exceeds environmental standards of MIL-S-19500/228
- Ultra fast switching for high efficiency

Specifications:

Mechanical Data:

Case	: Moulded plastic
Terminals	: Axial leads, solderable per MIL-STD-202, Method 208
Polarity	: Band denotes cathode
Mounting Position	: Any
Weight	: 0.013oz, 0.3g

Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.

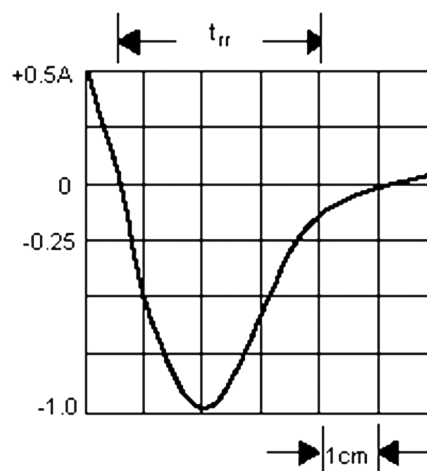
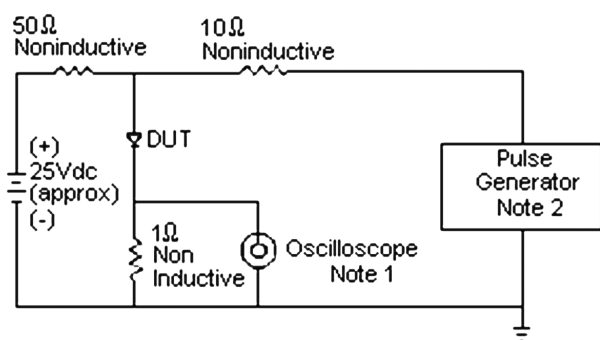
Description	UF102	UF108	Units
Peak Reverse Voltage, Repetitive; V_{RM}	200	800	V
Maximum RMS Voltage	140	560	
DC Blocking Voltage; V_R	200	800	
Average Forward Current, I_o at $T_A = 55^\circ\text{C}$ 3.8" lead Length, 60Hz, Resistive or Inductive Load	1		A
Peak Forward Surge Current IFM (Surge) 8.3m Seconds Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)		30	
Maximum Forward Voltage V_F at 1A, 25°C	1	1.7	V
Maximum Reverse Current at Rated, $T_J = 25^\circ$ Reverse voltage $T_J = 100^\circ\text{C}$		10 50	μA μA

Description	UF102	UF108	Units
Typical Junction Capacitance (Note 1) C_J		17	pF
Typical Junction Resistance (Note 2) $R_{\theta JA}$	60		°C/W
Reverse Recovery Time $I_F = 0.5A$, $I_R = 1A$, $I_{rr} = 0.25A$	50	75	nS
Operating and Storage Temperature Range	-55 to +150		°C

Notes:

1. Measured at 1MHz and Applied Reverse Voltage of 4V DC.
2. Thermal Resistance from Junction to Ambient and from Junction to Lead Length 0.375" (9.5mm) PCB Mounted.

Ratings and Characteristic Curves:



Set Time Base For 50ns/cm

Notes:

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

Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram

Typical Trace

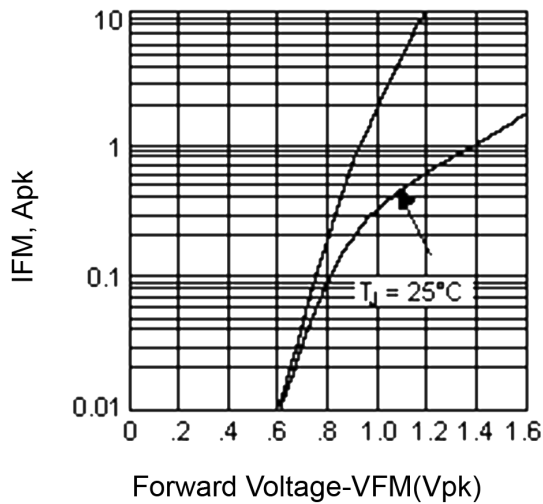


Figure 2 - Forward Characteristics

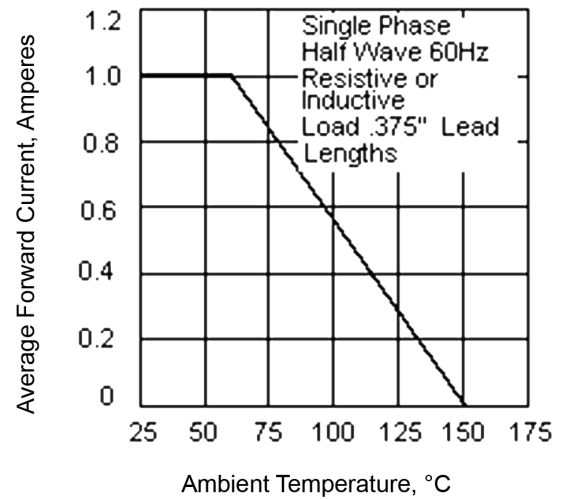


Figure 3 - Forward Current Derating Curve

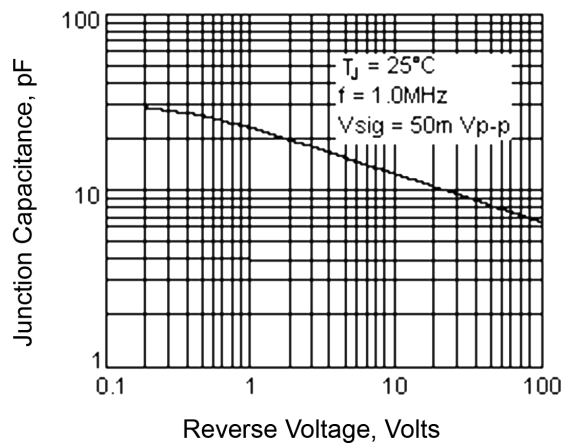


Figure 4 - Typical Junction Capacitance

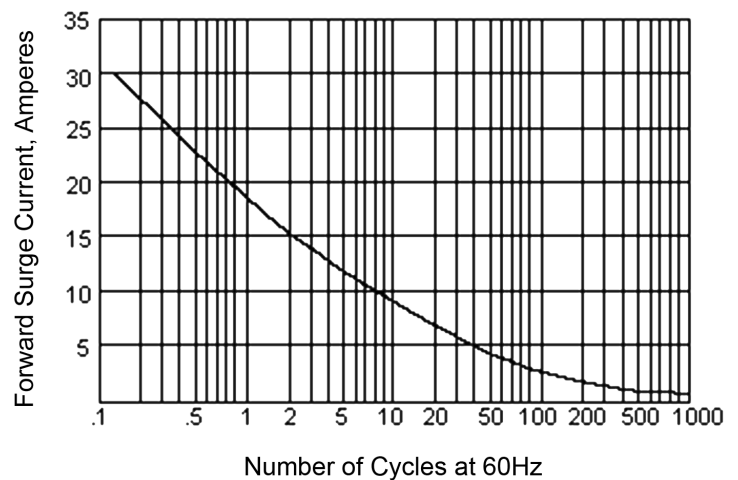
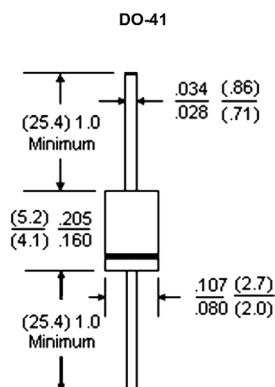


Figure 5 - Peak Forward Surge Current

Ultra Fast Diode



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Ultrafast, 1A, 200V	UF102
Diode, Ultrafast, 1A, 800V	UF108

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