

Ultra Fast Switching Rectifier 3A



Features:

- Fast reverse recovery time, t_{rr}
- Low forward voltage, V_F
- Low cost axial packages
- Void-free plastic in DO-201AD package
- 3A 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

Mechanical Data:

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

Maximum Ratings and Electrical Characteristics:

Ratings at 25°C ambient temperature unless otherwise specified.
Resistive or inductive load, 60Hz.

Parameters	UF304	Units
Peak reverse voltage, repetitive; V_{RM}	400	V
Maximum RMS voltage	280	
DC blocking voltage; V_R	400	
Average forward current, I_o at $T_A = 55^\circ\text{C}$ 3.8" Lead length, 60Hz, resistive or inductive load	3	A
Peak forward surge current I_{FM} (surge) 8.3m seconds Single half sine-wave superimposed on rated load (JEDEC method)	150	
Maximum forward voltage V_F at 3A, 25°C	1.1	V
Maximum reverse current at rated $T_J = 25^\circ\text{C}$ Reverse Voltage $T_J = 100^\circ\text{C}$	10 500	mA
Typical junction capacitance (Note 1) C_J	75	pF
Typical junction resistance (Note 2) $R_{\theta JA}$	20	$^\circ\text{C/W}$
Reverse recovery time $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.25\text{A}$	50	ns
Operating and storage temperature range	-55 to +150	$^\circ\text{C}$

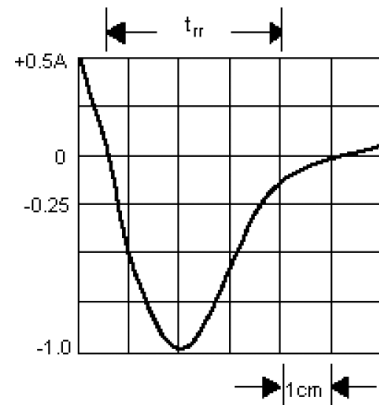
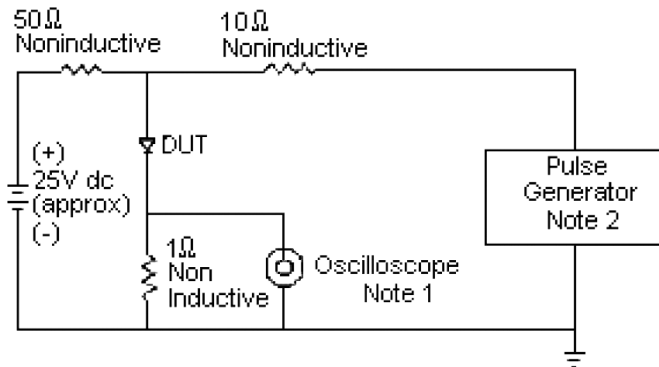
Notes:

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.

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Rating and Characteristics Curves



Note:

1. Rise Time = 7ns maximum
Input Impedance = 1MΩ, 22pF
2. Rise Time = 10ns maximum
Source Impedance = 50Ω

Set Time
Base For
50ns/cm

Figure 1 - Reverse Recovery Time Characteristics and Test Circuit Diagram

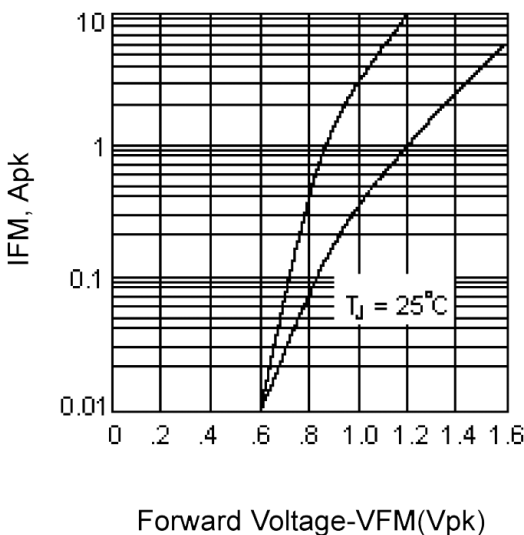


Figure 2 - Forward Characteristics

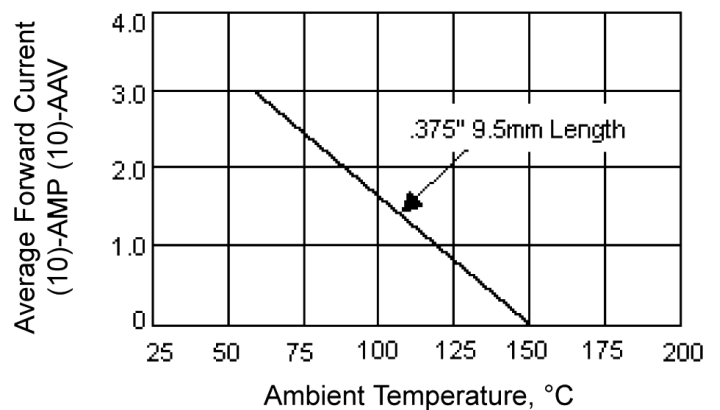


Figure 3- Forward Current Derating Curve



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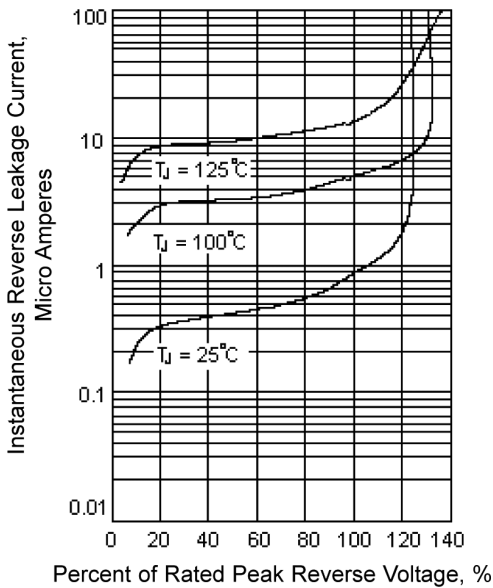


Figure 4 - Typical Reverse Leakage Characteristics

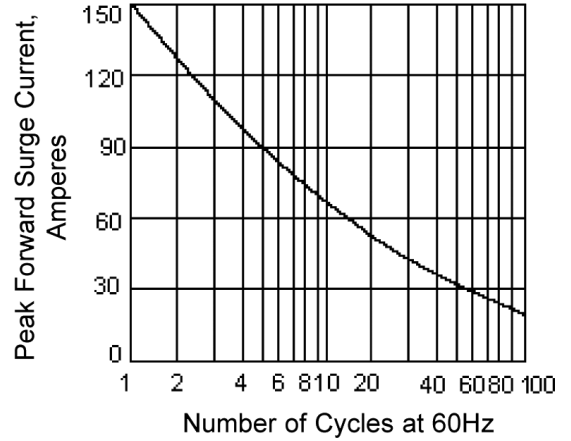
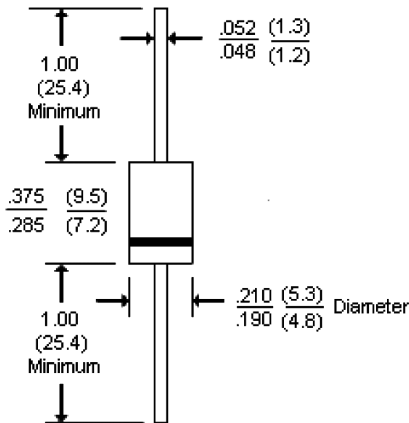


Figure 5 - Peak Forward Surge Current

Dimensions

DO-201AD



Dimensions: Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Ultrafast, 3A, 400V	UF304

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