

Ultra-Fast Diode



Features:

- Plastic package
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5lbs. (2.3kg) tension

Specifications:

Mechanical Data:

Case	: JEDEC DO-201AD moulded plastic body over passivated chip
Terminals	: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity	: Colour band denotes cathode end
Mounting position	: Any
Weight	: 0.045oz, 0.4g

Maximum Ratings and Electrical Characteristics:

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	UG4D	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	V
Maximum RMS Voltage	V_{RMS}	140	
Maximum DC Blocking Voltage	V_{DC}	200	
Maximum Average Forward Rectified Current at 0.375 inch (9.5mm) Lead Length at $T_L = 75^\circ\text{C}$	$I_{F(AV)}$	4	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method) at $T_L = 75^\circ\text{C}$	I_{FSM}	150	
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	25	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150°C	°C

Note: 1 Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) Lead Length.

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Electrical Characteristics:

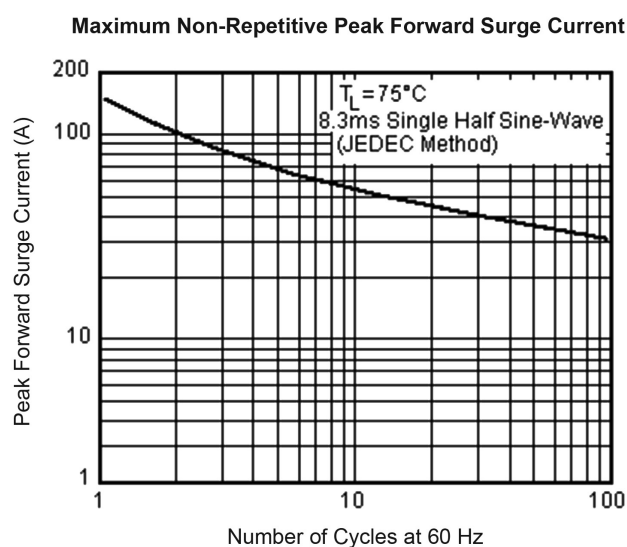
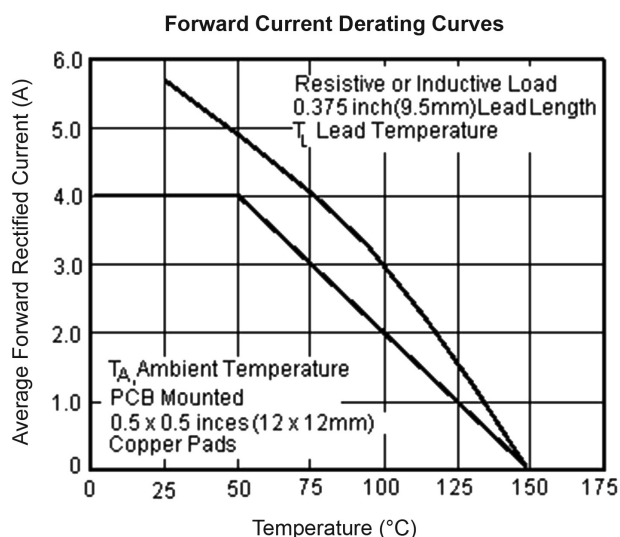
Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage at 4A (Note 2)	V_F	0.95	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	5 200	μA
Maximum Reverse Recovery Time at $I_F = 0.5A$, $I_R = 1A$, $I_{rr} = 0.25A$	t_{rr}	20	nS
Maximum Reverse Recovery Time at $I_F = 4A$, $di/dt = 50A/\mu s$, $V_R = 30V$, $I_{rr} = 10\% I_{RM}$		30 50	
Maximum Recovered Stored Charge $I_F = 4A$, $di/dt = 50A/\mu s$, $V_R = 30V$, $I_{rr} = 10\% I_{RM}$	Q_{RR}	15 30	nC
Typical Junction Capacitance at 4V, 1MHz	C_J	20	pF

Note 1: Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) Lead Length.

Note 2: Pulse Test: 300 μs Pulse Width, 1% duty Cycle.

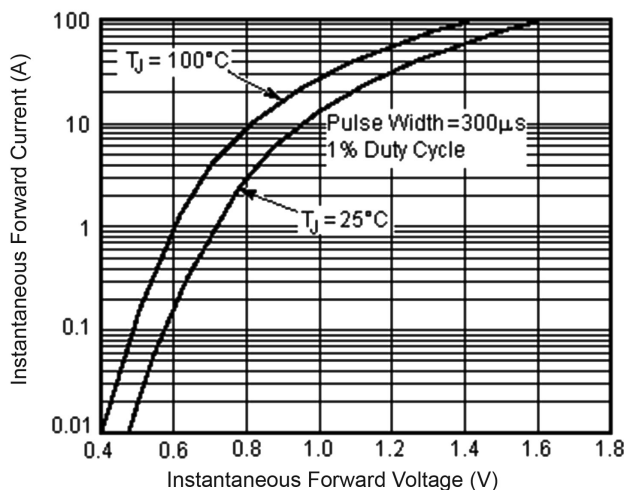
Ratings and Characteristic Curves ($T_A = 25^\circ C$ unless otherwise noted)



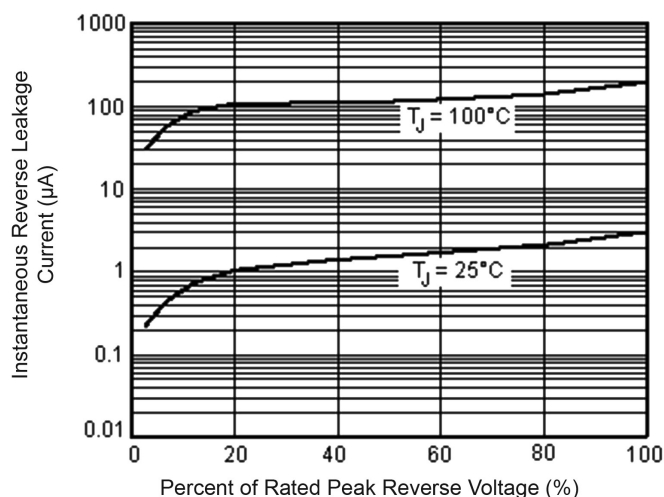
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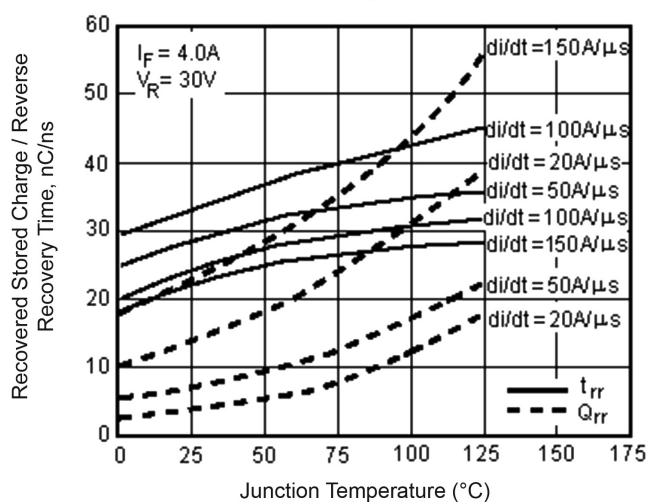
Typical Instantaneous Forward Characteristics



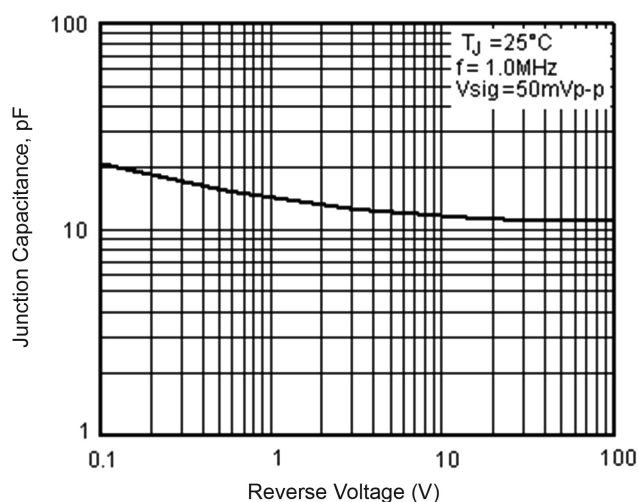
Typical Reverse Leakage Characteristics



Reverse Switching Characteristics



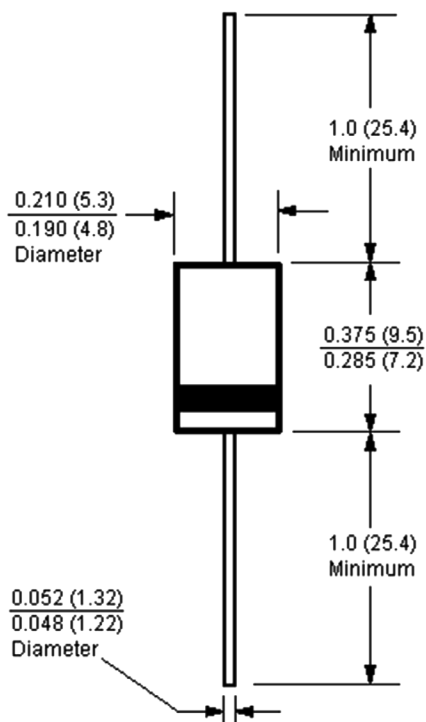
Typical Junction Capacitance



Ultra-Fast Diode



DO-201AD



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, Ultra-Fast, 4A, 200V	UG4D

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