

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.

Ultra-Fast Diode



Electrical Characteristics:

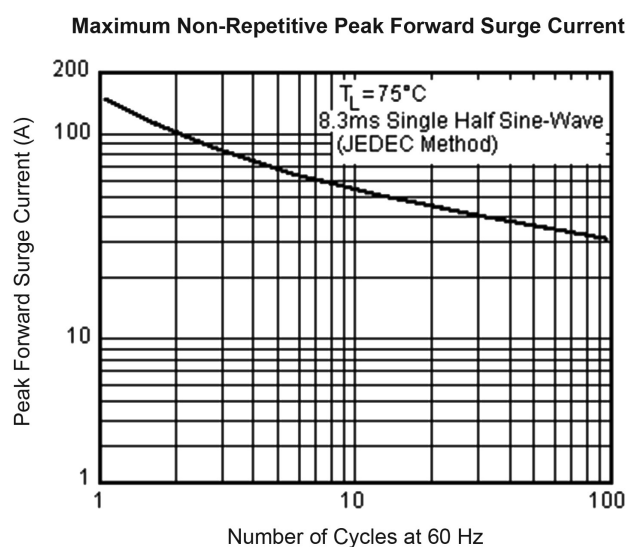
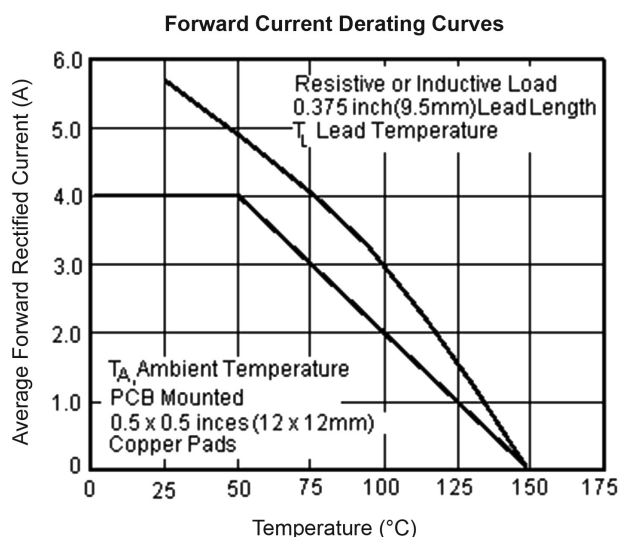
Rating at 25°C ambient temperature unless otherwise specified.

| 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.

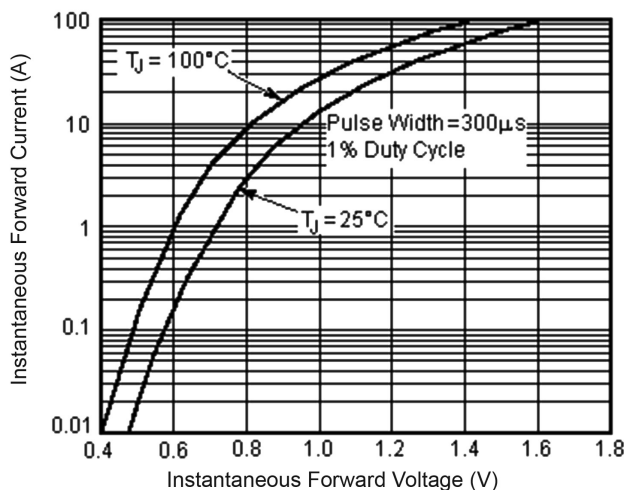
Ratings and Characteristic Curves ($T_A = 25^\circ C$ unless otherwise noted)



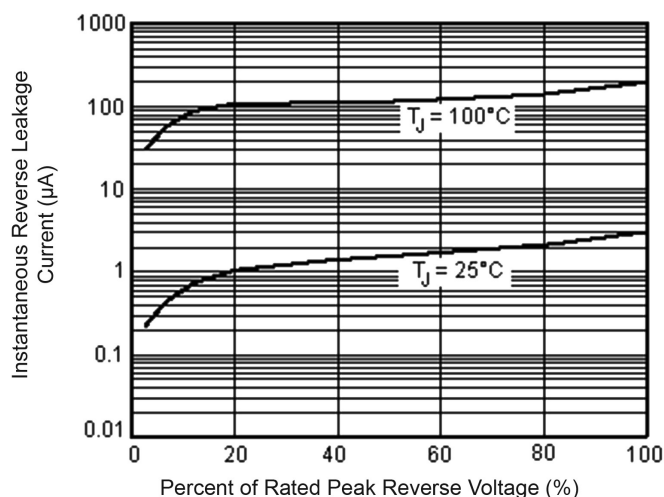
Ultra-Fast Diode



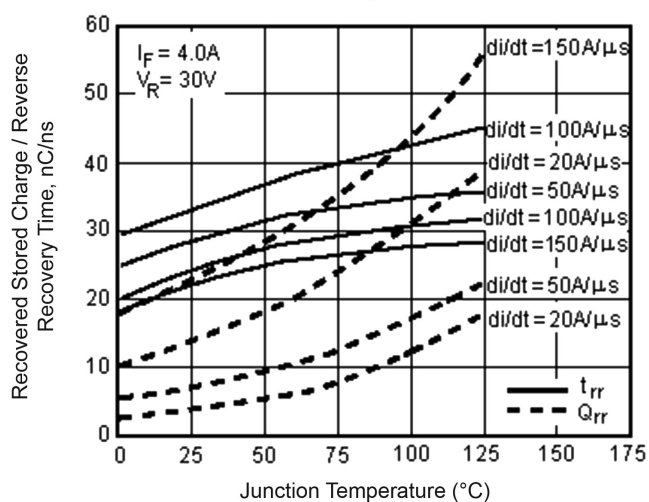
Typical Instantaneous Forward Characteristics



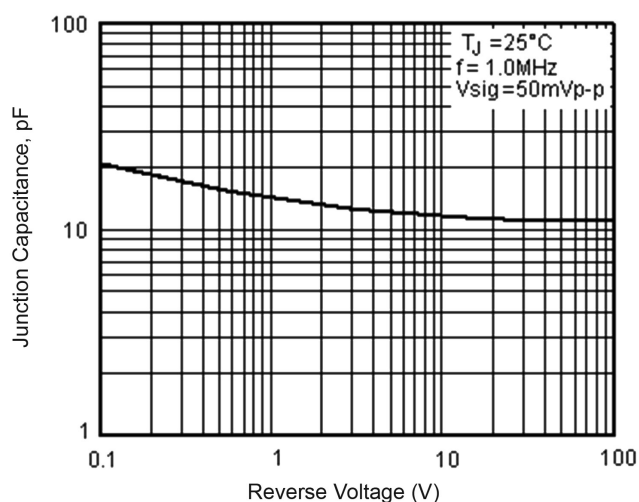
Typical Reverse Leakage Characteristics



Reverse Switching Characteristics



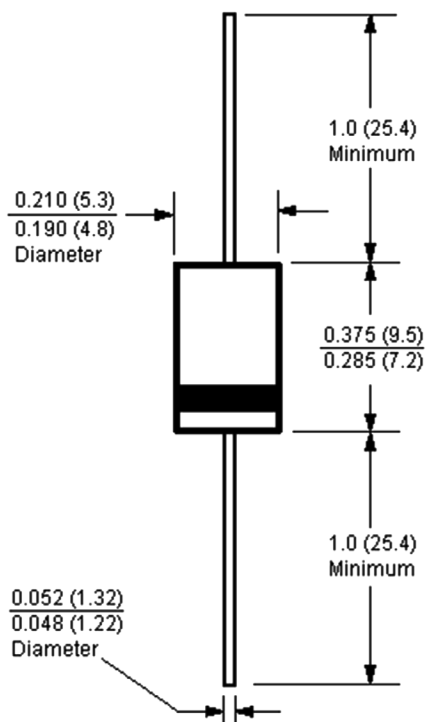
Typical Junction Capacitance



Ultra-Fast Diode



DO-201AD



Dimensions : Inches (Millimetres)

Part Number Table

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

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