



element14

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[31DF4](#)

[31DF6](#)

EN
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DE
Dieses Datenblatt wird vom
Hersteller bereitgestellt

FR
Cette fiche technique est
présentée par le fabricant

Diode Ultra Fast



RoHS
Compliant



Features:

- High efficiency, low V_F
- High current capability
- High reliability
- High surge current capability
- Low power loss

Specifications:

Mechanical Data:

| | |
|---------------------------------------|---|
| Cases | : Moulded plastic |
| Lead | : Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed |
| Polarity | : Colour band denotes cathode end |
| High temperature soldering guaranteed | : 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension |
| Weight | : 1.2g |

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%.

| Type Number | Symbol | 31DF4 | 31DF6 | Units |
|--|------------|-----------|-------|---------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 400 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 280 | 420 | |
| Maximum DC Blocking Voltage | V_{DC} | 400 | 600 | |
| Maximum Average Forward Rectified Current 0.375 (9.5mm) Lead Length at $T_A = 29^\circ\text{C}$ (Note 1) $T_L = 109^\circ\text{C}$ | $I_{(AV)}$ | 1.2 3 | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 45 | | |
| Maximum Instantaneous Forward Voltage at 3A | V_F | 1.7 | | V |
| Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$ | I_R | 20 100 | | μA |

Note 1. Without Fin or PC Board.



Diode Ultra Fast



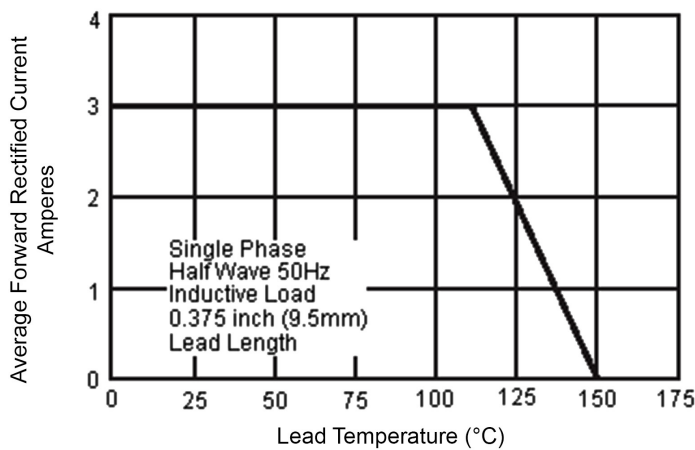
| Type Number | Symbol | 31DF4 | 31DF6 | Units |
|--|-----------------|-------------|-------|-------|
| Maximum Reverse Recovery Time (Note 3) | T_{rr} | 35 | | nS |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 80 | | °C/W |
| Operating Temperature Range | T_J | -40 to +150 | | °C |
| Storage Temperature Range | T_{STG} | | | |

Note 2. Thermal Resistance from Junction to Ambient 0.375" (9.5mm) Lead Length.

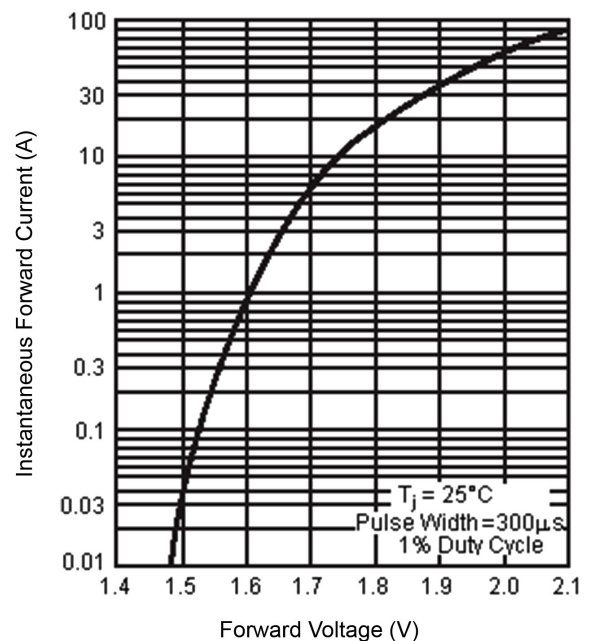
Note 3. Reverse recovery Test Condition: $T_A = 25^\circ\text{C}$, $I_{FM} = 3\text{A}$, $di/dt = 50\text{A/}\mu\text{s}$.

Ratings and Characteristic Curves (31DF4, 31DF6)

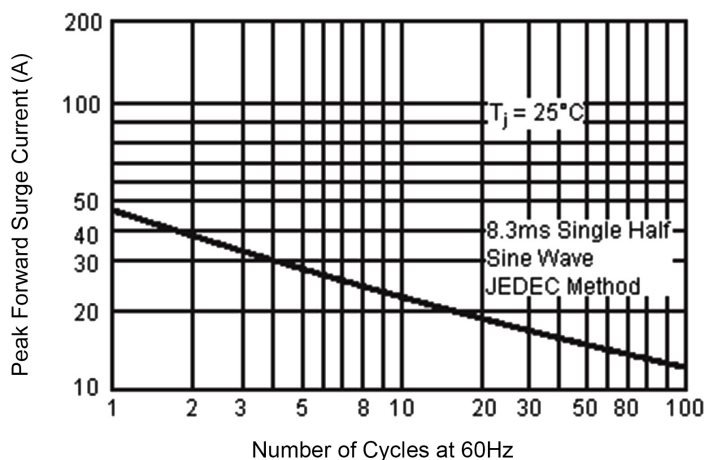
Maximum Forward Current Derating Curve



Typical Forward Characteristics



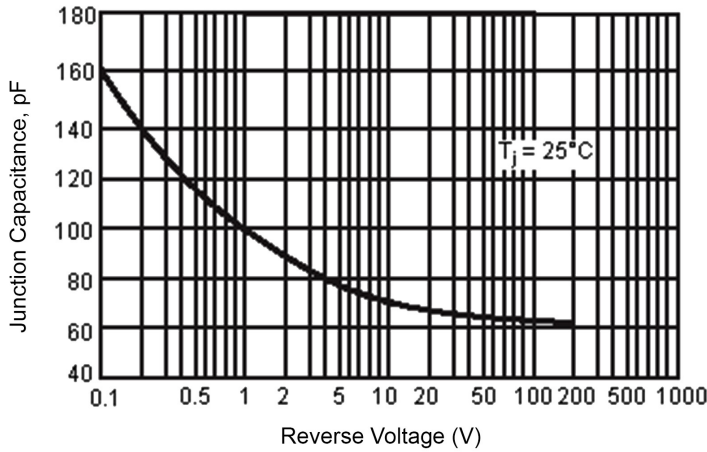
Maximum Non-Repetitive Forward Surge Current



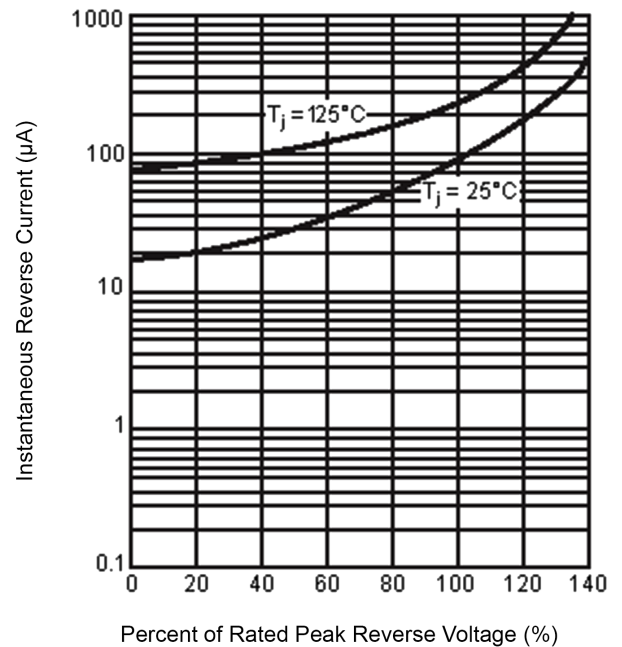
Diode Ultra Fast



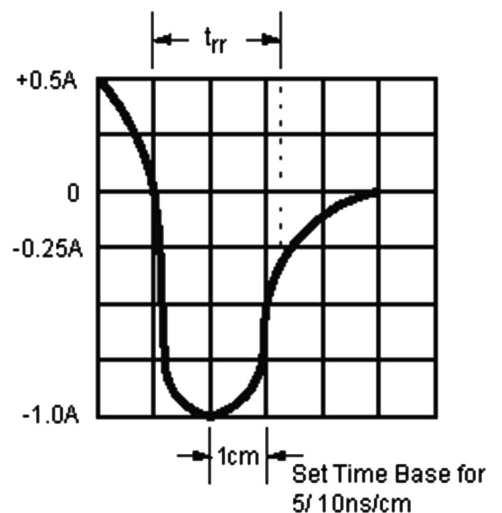
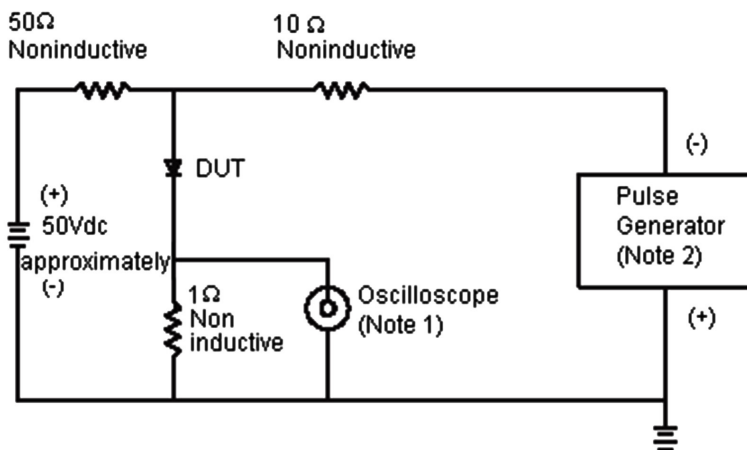
Typical Junction Capacitance



Typical Reverse Characteristics



Reverse Recovery Time Characteristic and Test Circuit Diagram



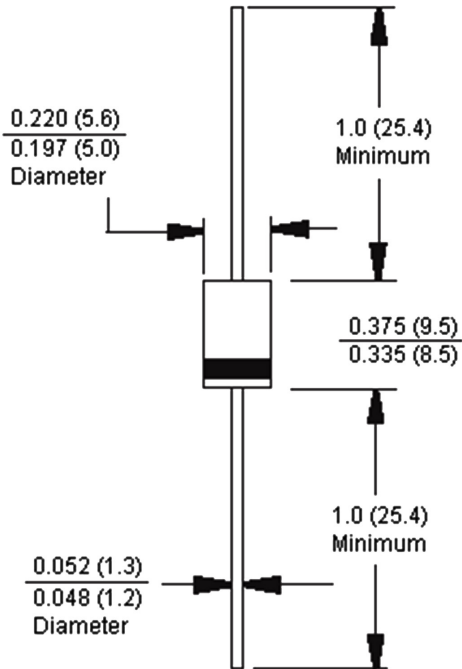
Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1MΩ 22pf
 Note: 2. Rise Time = 10ns Maximum Source Impedance = 50Ω



Diode Ultra Fast



DO-201AD



Dimensions : Inches (Millimetres)

Part Number Table

| Description | Part Number |
|-----------------------------|-------------|
| Diode, Ultra-Fast, 3A, 400V | 31DF4 |
| Diode, Ultra-Fast, 3A, 600V | 31DF6 |

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