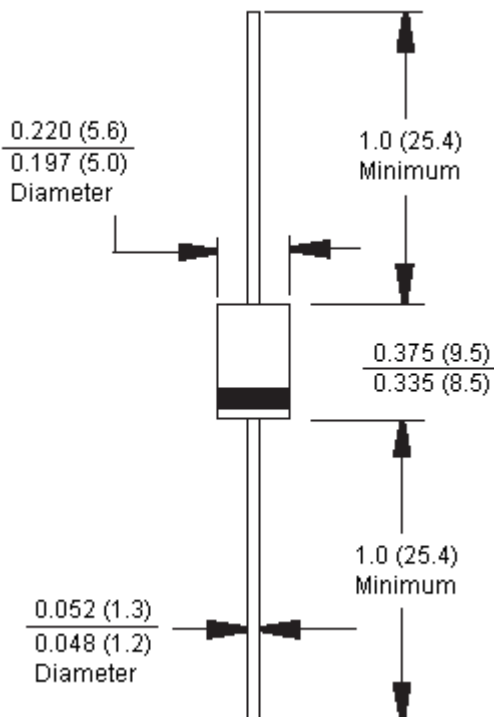




Features:

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

DO-201AD



Dimensions : Inches (Millimetres)

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 inch, (9.5mm) lead lengths at 5lbs., (2.3kg) tension.
Weight	: 1.2 grams.

Maximum Ratings and Electrical Characteristics

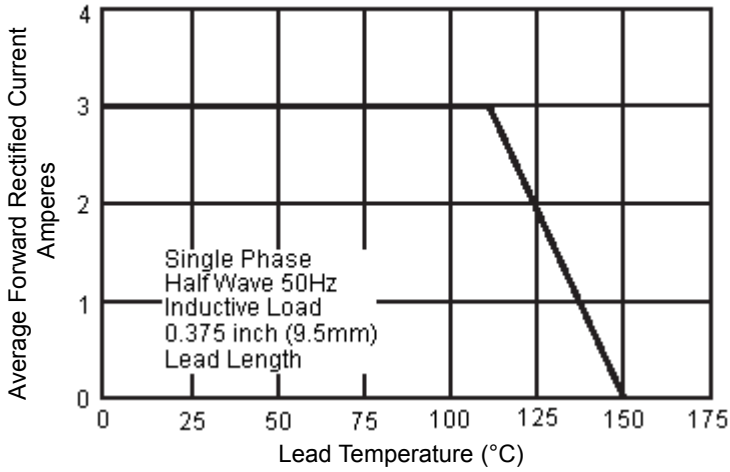
Rating at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

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 3.0		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 3.0A	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
Maximum Reverse Recovery Time (Note 3)	T_{rr}	35		nS
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	80		$^\circ\text{C/W}$
Operating Temperature Range	T_J	-40 to +150		$^\circ\text{C}$
Storage Temperature Range	T_{STG}			

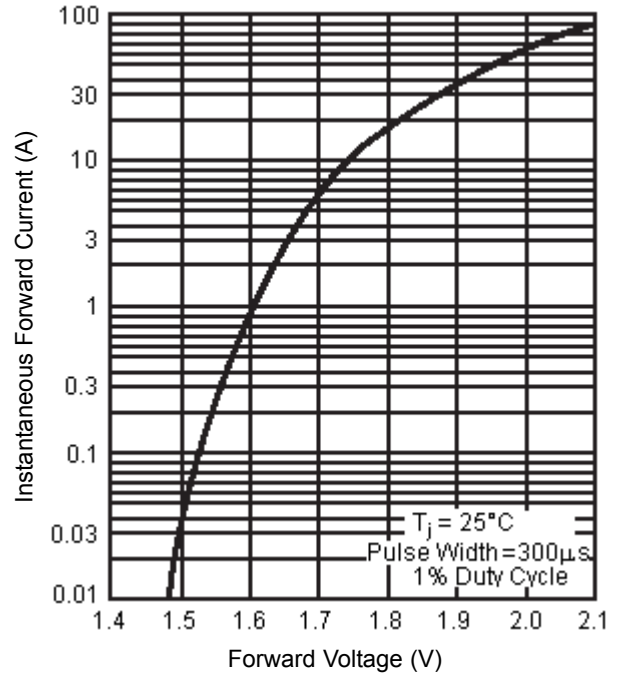
- Notes: 1. Without Fin or PC Board.
 2. Thermal Resistance from Junction to Ambient 0.375 inch (9.5mm) Lead Length.
 3. Reverse recovery Test Condition: $T_a = 25^\circ\text{C}$, $I_{FM} = 3\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$.

Ratings and Characteristic Curves (31DF4, 31DF6)

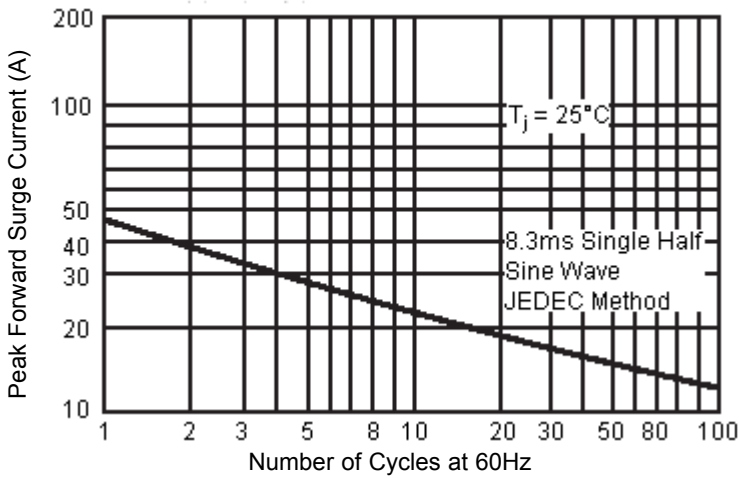
Maximum Forward Current Derating Curve



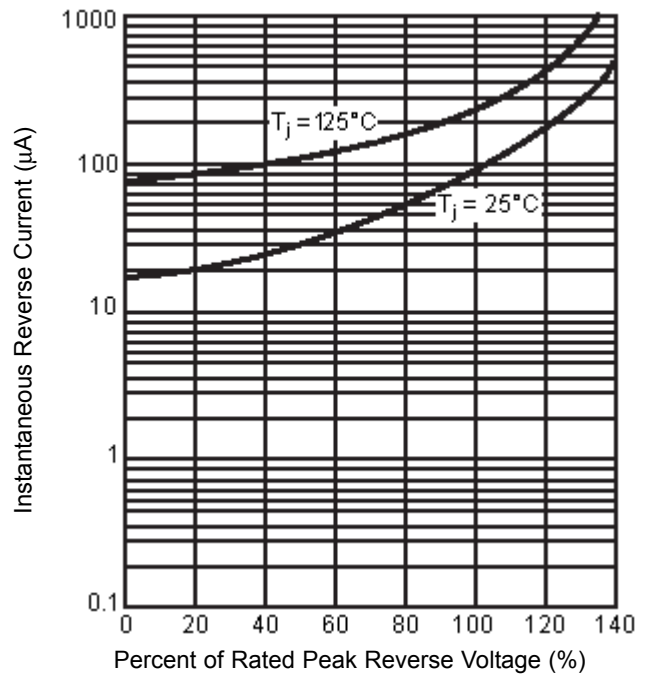
Typical Forward Characteristics



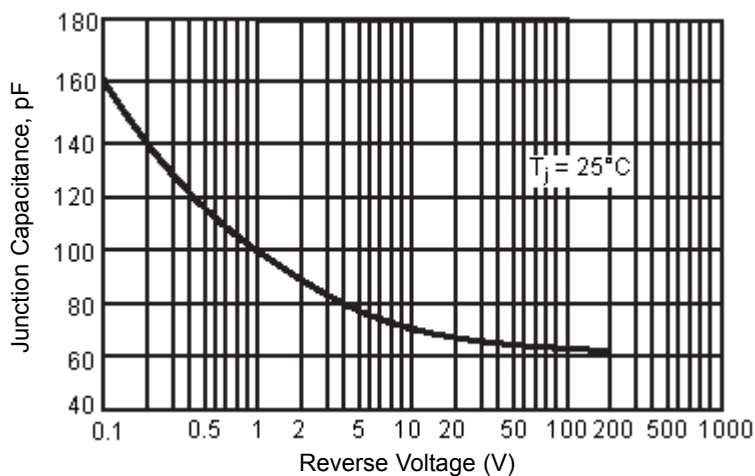
Maximum Non-Repetitive Forward Surge Current



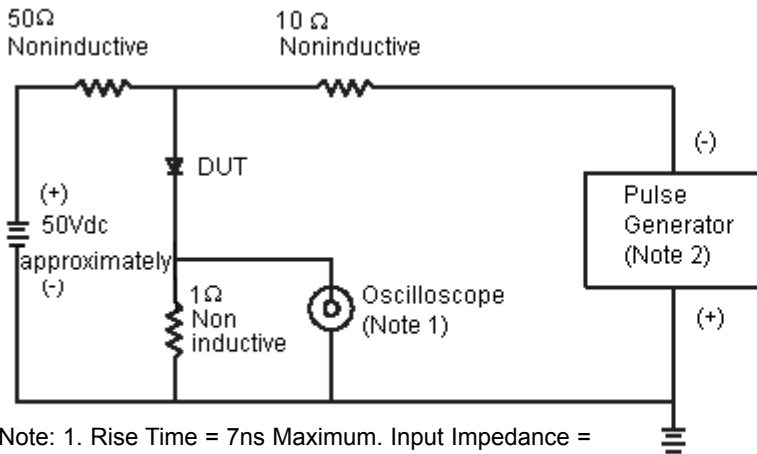
Typical Reverse Characteristics



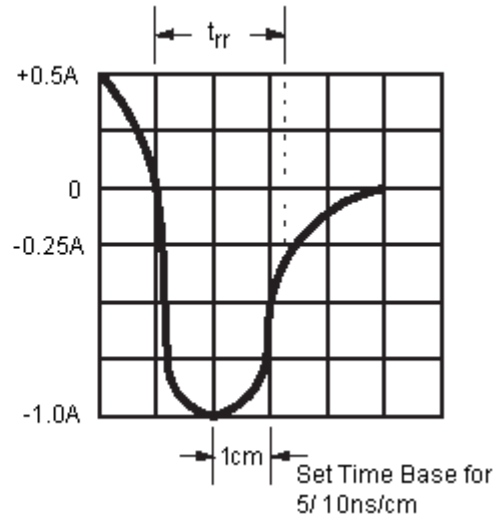
Typical Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram



- Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1 Megohm 22pf
 2. Rise Time = 10ns Maximum Source Impedance = 50 ohms



Part Number Table

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

Notes:

International Sales Offices:

	AUSTRALIA - Farnell Tel No: ++61 1300 361 005 Fax No: ++61 1300 361 225		FINLAND - Farnell Tel No: ++ 358 9 560 7780 Fax No: ++ 358 9 345 5411		ITALY - Farnell Tel No: ++ 39 02 93 995 200 Fax No: ++ 39 02 93 995 300		SPAIN - Farnell Tel No: 901 20 20 80 Fax No: 901 20 20 90
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<http://www.cpc.co.uk>

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