

# 31DF4 - 31DF6

## 3.0 AMPS. Super Fast Rectifiers

### DO-201AD

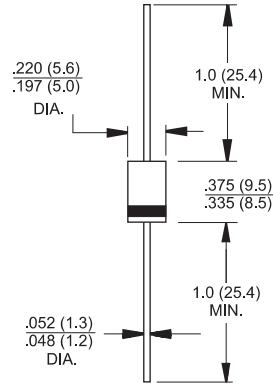
U1

## Features

- ◇ High efficiency, Low VF
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability
- ◇ Low power loss.

## Mechanical Data

- ◇ Cases: Molded plastic
- ◇ Epoxy: UL 94V-0 rate flame retardant
- ◇ Lead: Pure tin plated, Lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ◇ Polarity: Color band denotes cathode end
- ◇ High temperature soldering guaranteed:  
260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ◇ Weight: 1.2 grams



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

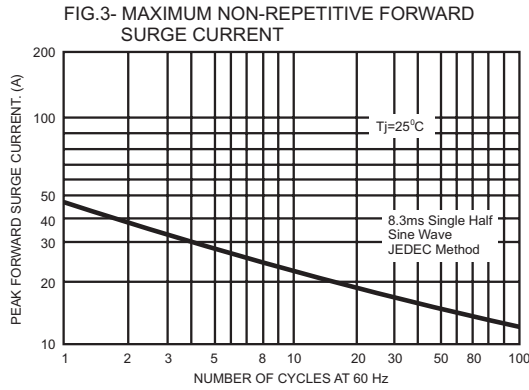
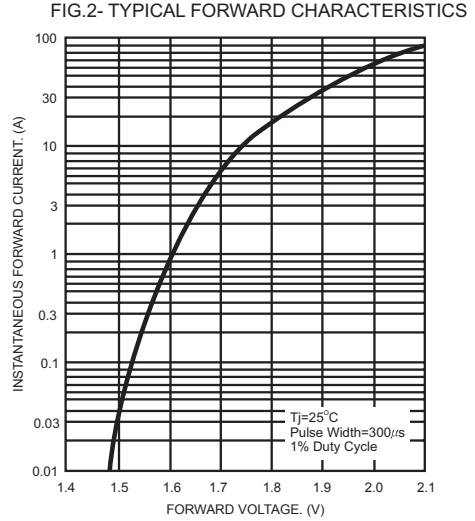
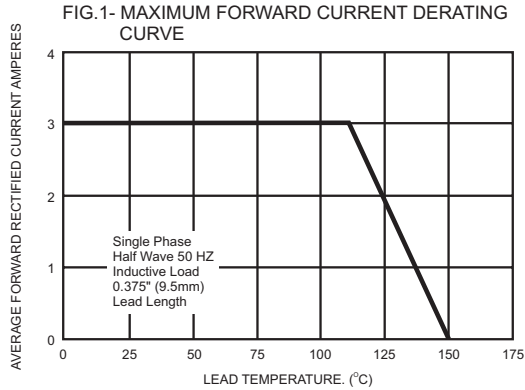
Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

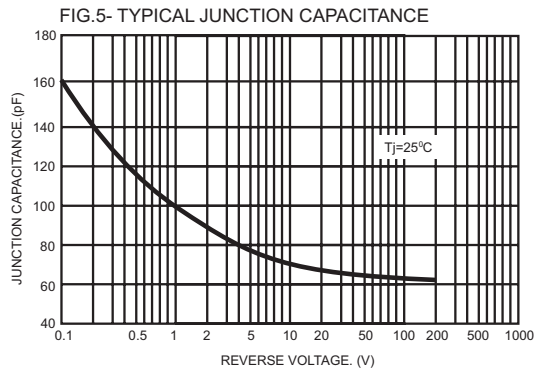
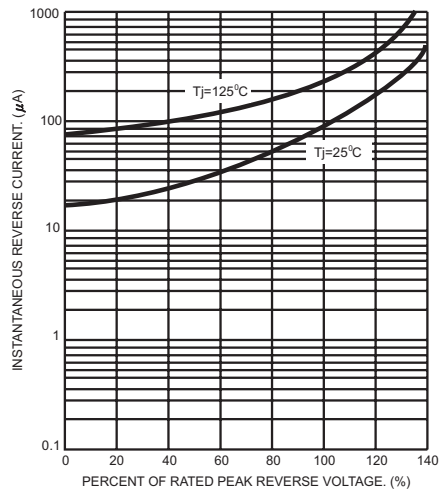
Type Number	Symbol	31DF4	31DF6	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	400	600	V
Maximum RMS Voltage	$V_{RMS}$	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	400	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 29^\circ\text{C}$ (Note 1) @ $T_L = 109^\circ\text{C}$	$I_{(AV)}$	1.2 3.0		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	45		A
Maximum Instantaneous Forward Voltage @ 3.0A	$V_F$	1.7		V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	$I_R$	20 100		$\mu\text{A}$
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	$T_{STG}$	-40 to +150		$^\circ\text{C}$

- Notes:
1. Without Fin or P.C.Board..
  2. Thermal Resistance from Junction to Ambient .375" (9.5mm) Lead Length.
  3. Reverse recovery Test Condition:  $T_a = 25^\circ\text{C}$ ,  $I_{FM}=3\text{A}$ ,  $di/dt = 50\text{A} / \text{Us}$ .

## RATINGS AND CHARACTERISTIC CURVES (31DF4 THRU 31DF6)



**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



**FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

