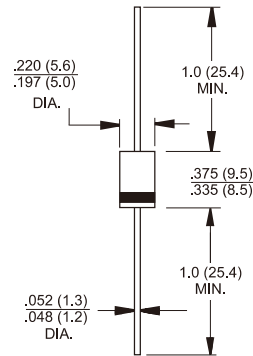


## 31DF4 - 31DF6 3.0 AMPS. Super Fast Rectifiers

### DO-201AD



Dimensions in inches and (millimeters)



#### Marking Diagram

31DFX = Specific Device Code  
G = Green Compound  
Y = Year  
WW = Work Week

### Features

- High efficiency, Low VF
- High current capability
- High reliability
- High surge current capability
- Low power loss.
- Green compound with suffix "G" on packing code & prefix "G" on datecode.

### 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: 1.20 grams

### 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%

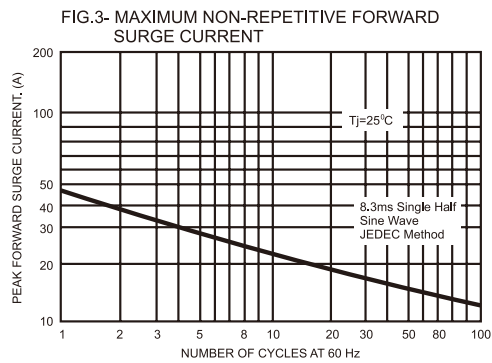
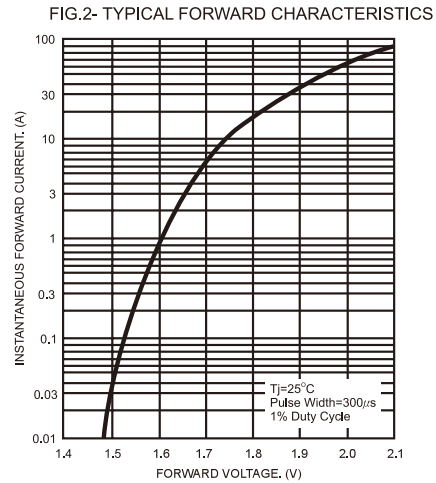
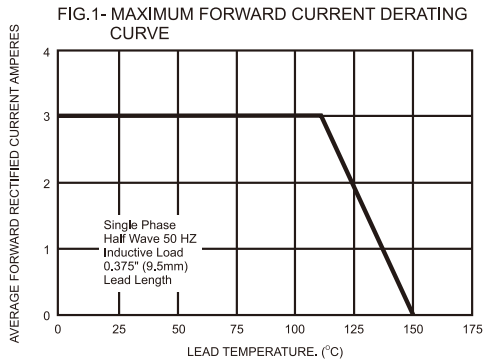
Type Number	Symbol	31DF4	31DF6	Units
Maximum Recurrent Peak Reverse Voltage	VRRM	400	600	V
Maximum RMS Voltage	VRMS	280	420	V
Maximum DC Blocking Voltage	VDC	400	600	V
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @T <sub>A</sub> = 29°C @T <sub>L</sub> = 109°C	I <sub>F(AV)</sub>	1.2 3.0		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	45		A
Maximum Instantaneous Forward Voltage @ 3.0A	V <sub>F</sub>	1.7		V
Maximum DC Reverse Current at @ T <sub>A</sub> =25°C Rated DC Blocking Voltage (Note 1) @T <sub>A</sub> =125°C	I <sub>R</sub>	20 100		uA uA
Maximum Reverse Recovery Time (Note 3)	T <sub>rr</sub>	35		nS
Typical Thermal Resistance ( Note 2 )	R <sub>θJA</sub>	80		°C/W
Operating Temperature Range	T <sub>J</sub>	-40 to +150		°C
Storage Temperature Range	T <sub>STG</sub>	-40 to +150		°C

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle

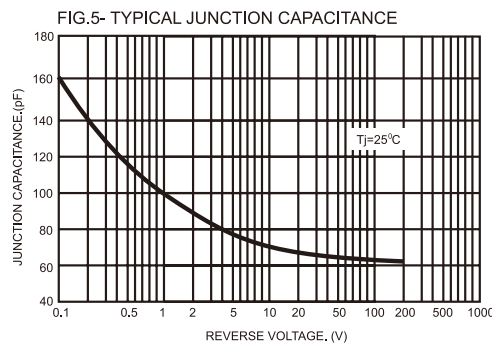
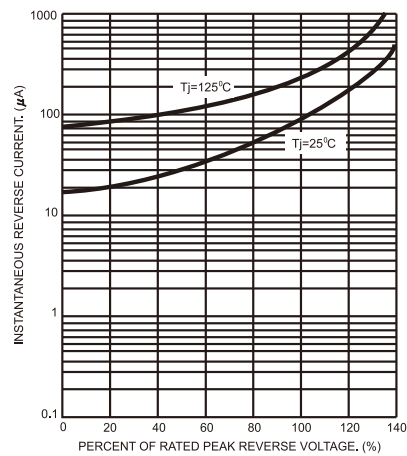
2. Thermal Resistance from Junction to Ambient .375" (9.5mm) Lead Length.

3. Reverse recovery Test Condition: T<sub>a</sub> = 25°C, I<sub>FM</sub>=3A, di/dt = 50A / Us.

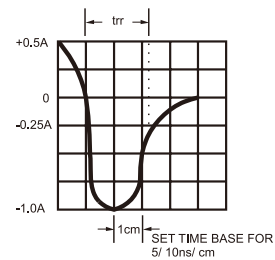
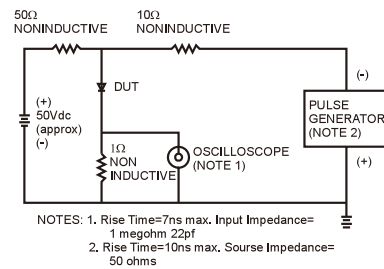
## RATINGS AND CHARACTERISTIC CURVES (31DF4 THRU 31DF6)



**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



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



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