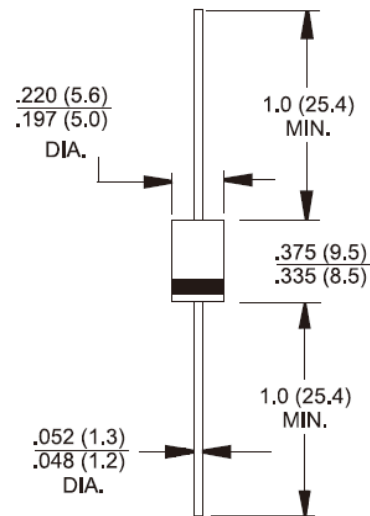


DO-201AD

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: 1.2 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	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 @ $T_A = 29^\circ\text{C}$ @ $T_L = 109^\circ\text{C}$	$I_{F(AV)}$	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 (Note 1) @ 3 A	V_F	1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$ @ $T_A = 125^\circ\text{C}$	I_R	20 100		μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	35		nS
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	80		$^\circ\text{C/W}$
Operating Temperature Range	T_J	- 40 to + 150		$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 40 to + 150		$^\circ\text{C}$

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

Note 2: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Note 3: Thermal Resistance from Junction to Ambient .375"(9.5mm) Lead Length.

RATINGS AND CHARACTERISTIC CURVES (31DF4 THRU 31DF6)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

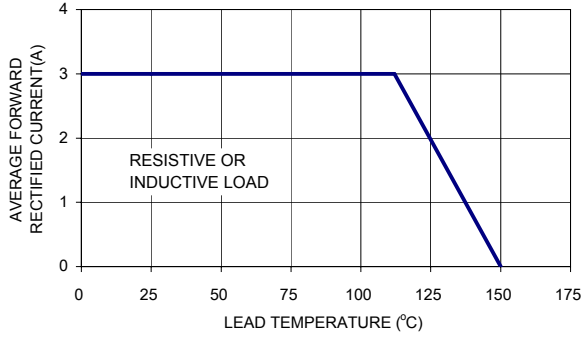


FIG. 2- TYPICAL FORWARD CHARACTERISRICS

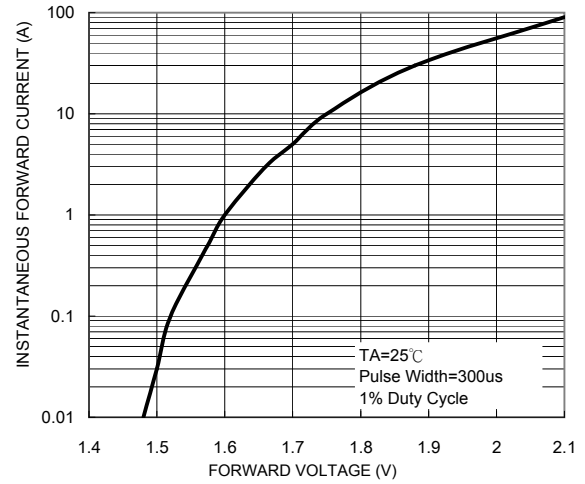


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

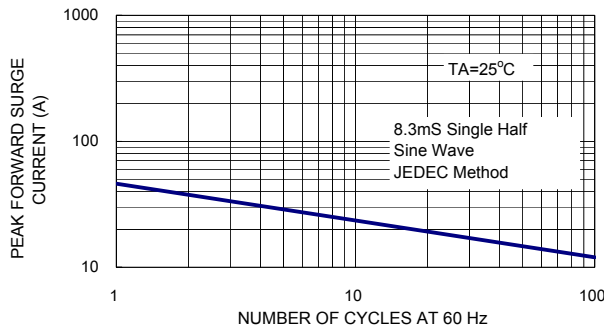


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

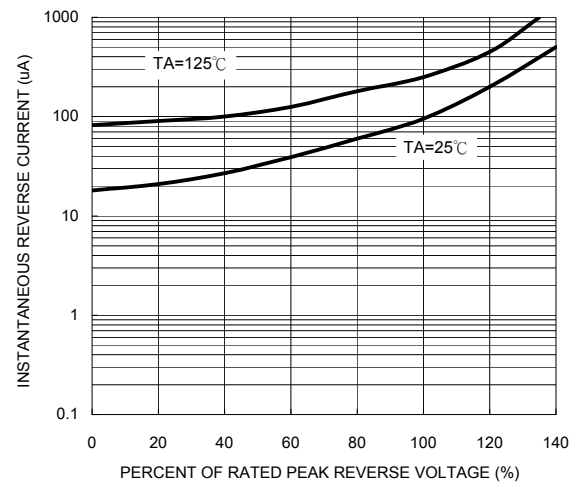


FIG. 5- TYPICAL JUNCTION CAPACITANCE

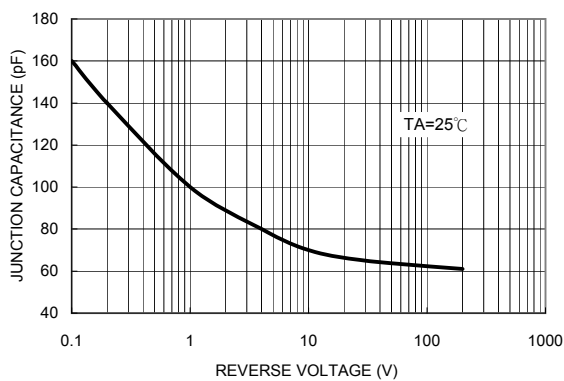


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

