

## 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
- ✧ Weight: 1.2 grams



## Ordering Information (example)

| Part No. | Package  | Packing        | INNER TAPE | Packing code | Packing code (Green) |
|----------|----------|----------------|------------|--------------|----------------------|
| 31DF4    | DO-201AD | 500 / AMMO box | 52mm       | A0           | A0G                  |

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter                                                                                          | 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                                                          | $I_{F(AV)}$     | 3             |       | 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)<br>@ 3 A                                            | $V_F$           | 1.7           |       | V     |
| Maximum DC Reverse Current at Rated<br>DC Blocking Voltage                                         | $I_R$           | 20<br>100     |       | uA    |
| Maximum Reverse Recovery Time (Note 2)                                                             | $T_{rr}$        | 35            |       | nS    |
| Typical Thermal Resistance                                                                         | $R_{\theta JA}$ | 80            |       | °C/W  |
| Operating Temperature Range                                                                        | $T_J$           | - 40 to + 150 |       | °C    |
| Storage Temperature Range                                                                          | $T_{STG}$       | - 40 to + 150 |       | °C    |

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

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

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

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

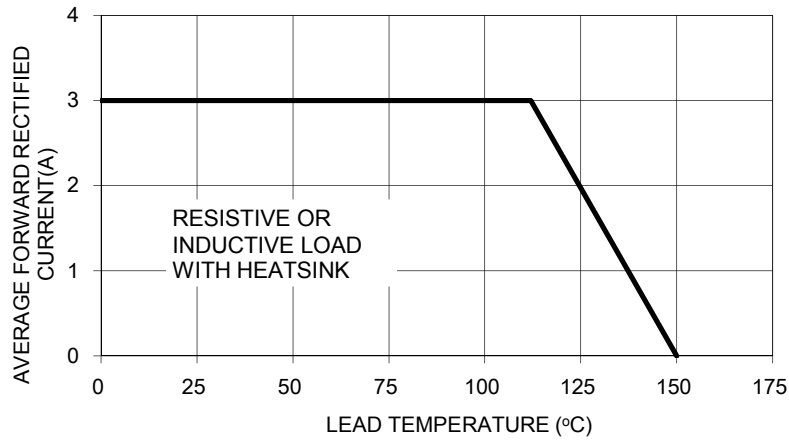


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

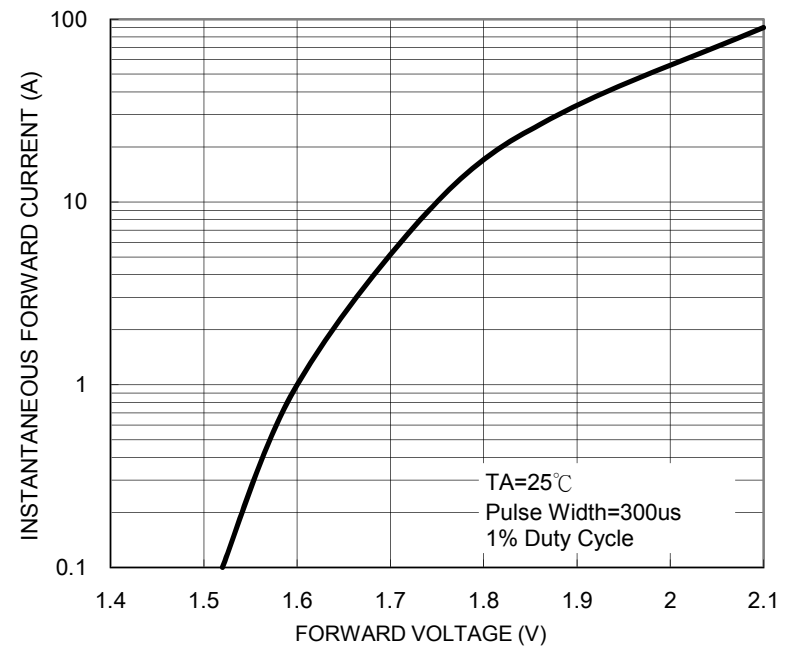


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

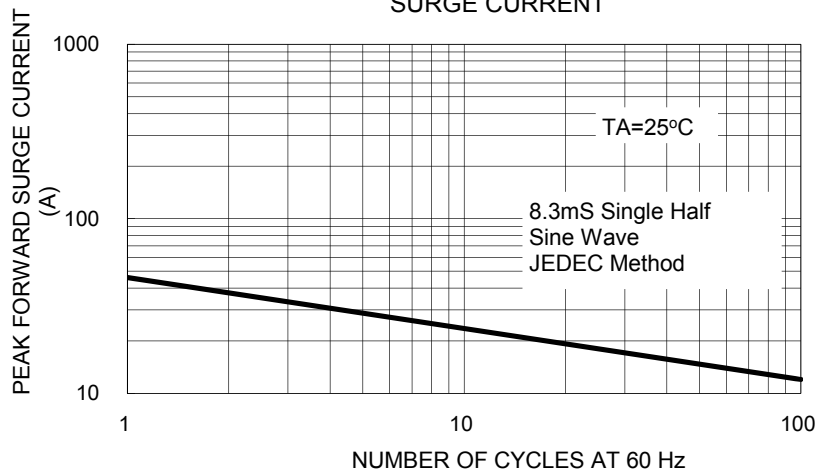


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

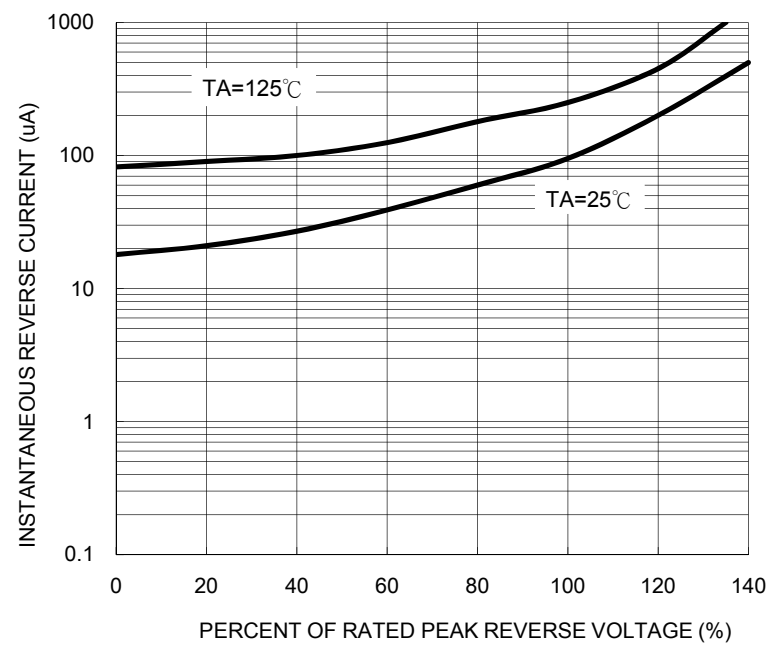


FIG. 5- TYPICAL JUNCTION CAPACITANCE

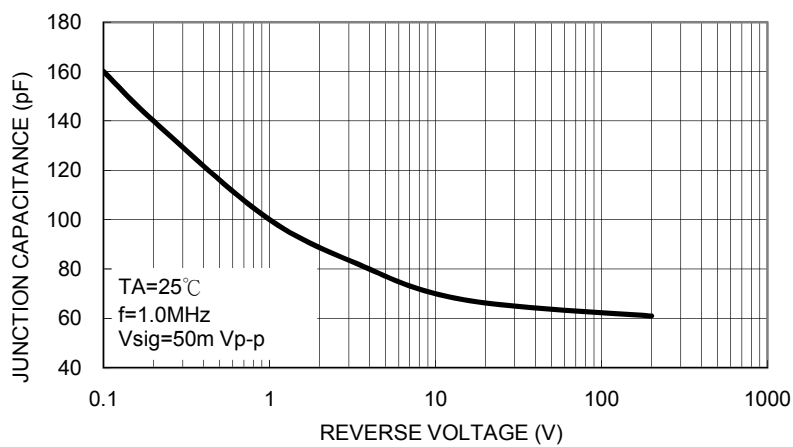
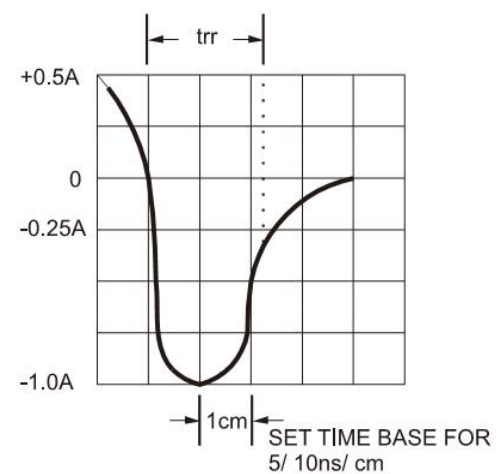
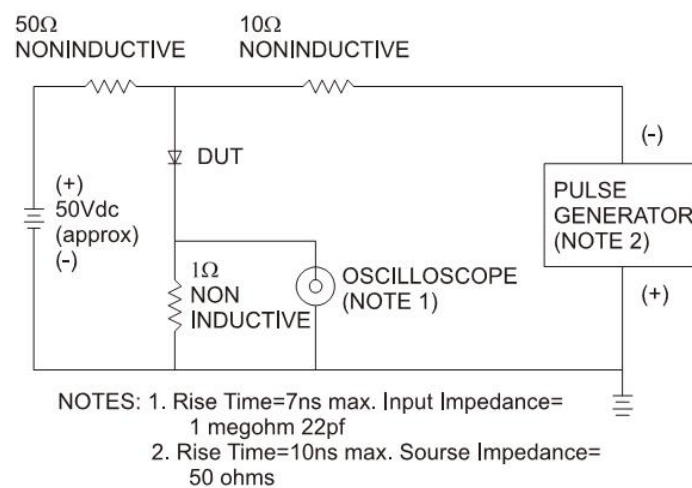


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

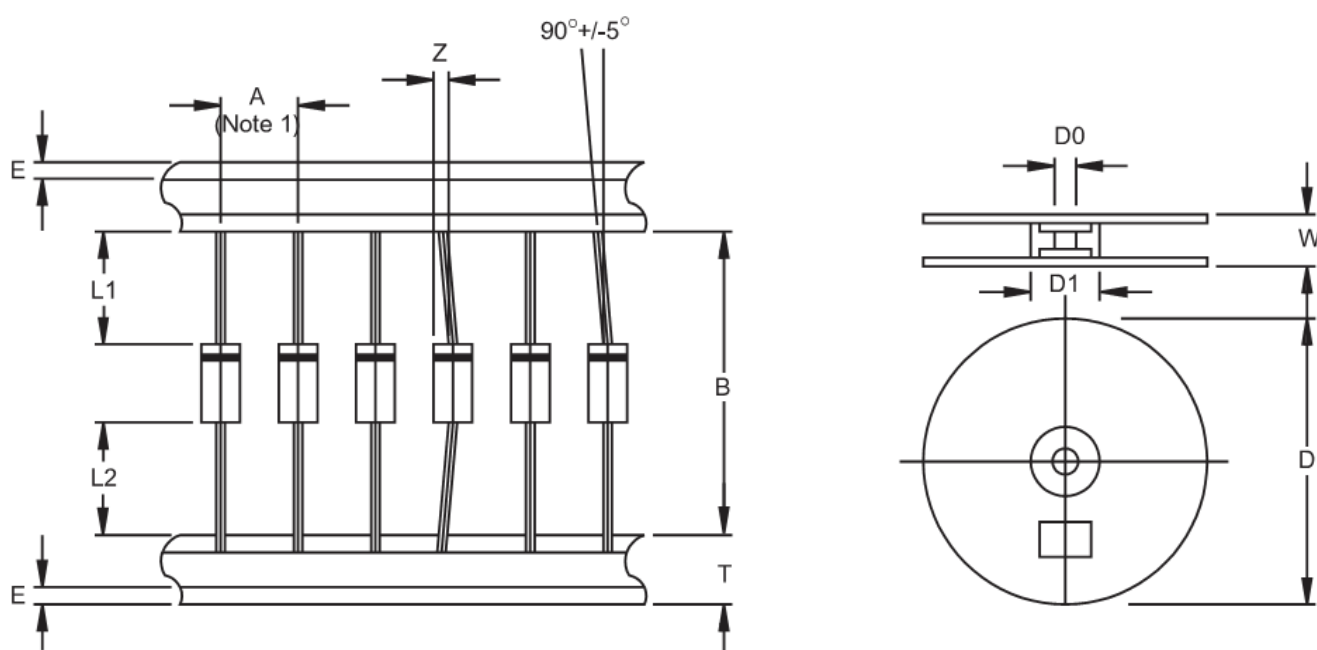


## Ordering information

| Part No.        | Package  | Packing            | INNER TAPE | Packing code | Packing code (Green) |
|-----------------|----------|--------------------|------------|--------------|----------------------|
| 31DFx<br>(Note) | DO-201AD | 500 / AMMO box     | 52mm       | A0           | A0G                  |
|                 | DO-201AD | 1.25K / 13" Reel   | 52mm       | R0           | R0G                  |
|                 | DO-201AD | 500 / Bulk packing |            | B0           | B0G                  |
|                 | DO-201AD | Forming            |            | X0           | X0G                  |

Note: "xx" is Device Code from "4" thru "6".

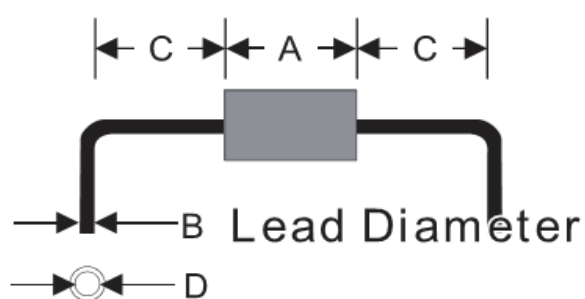
## AXIAL LEAD TAPING SPECIFICATIONS



| Outline  | A    | B    | Z   | T    | E   | L1-L2 | D   | D1   | D0   | W    |
|----------|------|------|-----|------|-----|-------|-----|------|------|------|
|          | ±0.5 | ±1.5 | MAX | ±0.4 | MAX | MAX   |     | ±0.3 | ±0.4 | ±1.0 |
| DO-201AD | 10   | 52.4 | 1.2 | 6    | 0.8 | 1     | 330 | 85.7 | 16.6 | 76   |

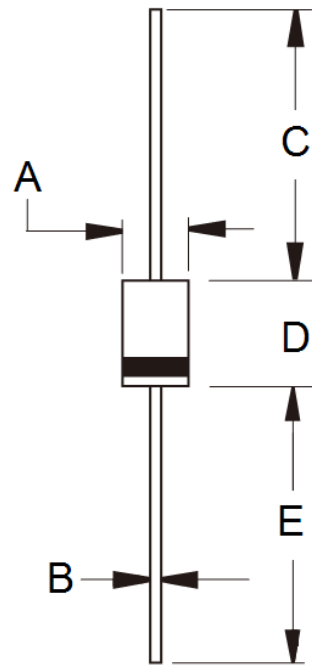
Unit (mm)

## Suggested Mounting Hole Rule



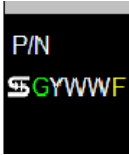
| Symbol | Unit(mm) |
|--------|----------|
| A      | 9.0      |
| B      | 1.2      |
| C      | 4.0      |
| D      | 1.6      |

Dimensions



| DIM. | Unit(mm) |      | Unit(inch) |       |
|------|----------|------|------------|-------|
|      | Min      | Max  | Min        | Max   |
| A    | 5.00     | 5.60 | 0.197      | 0.220 |
| B    | 1.20     | 1.30 | 0.048      | 0.052 |
| C    | 25.40    | -    | 1.000      | -     |
| D    | 8.50     | 9.50 | 0.335      | 0.375 |
| E    | 25.40    | -    | 1.000      | -     |

Marking Diagram



- P/N = Specific Device Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

# Mouser Electronics

Authorized Distributor

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[31DF4](#) [31DF6](#) [31DF6 R0](#)