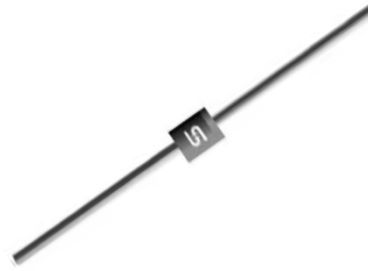


### Features

- ✧ 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



### 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.

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	$I_{F(AV)}$	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) @ 3 A	$V_F$	1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A=25\text{ }^\circ\text{C}$	$I_R$	20		uA
		@ $T_A=125\text{ }^\circ\text{C}$		100
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	35		nS
Typical Thermal Resistance	$R_{\theta JA}$	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:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

RATINGS AND CHARACTERISTIC CURVES (31DF4 THRU 31DF6)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

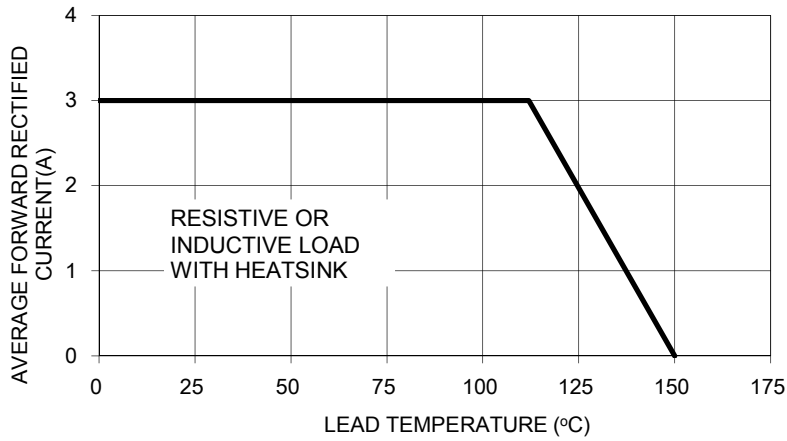


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

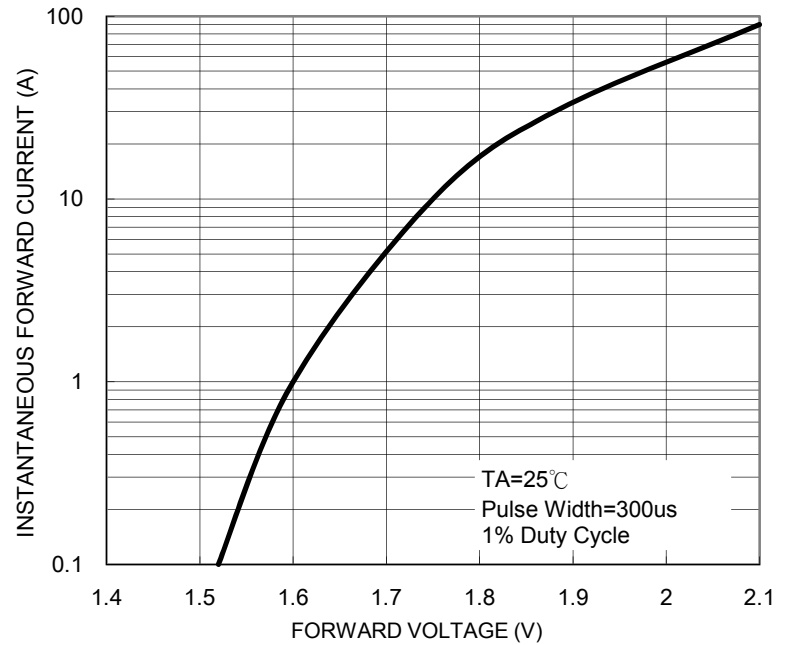


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

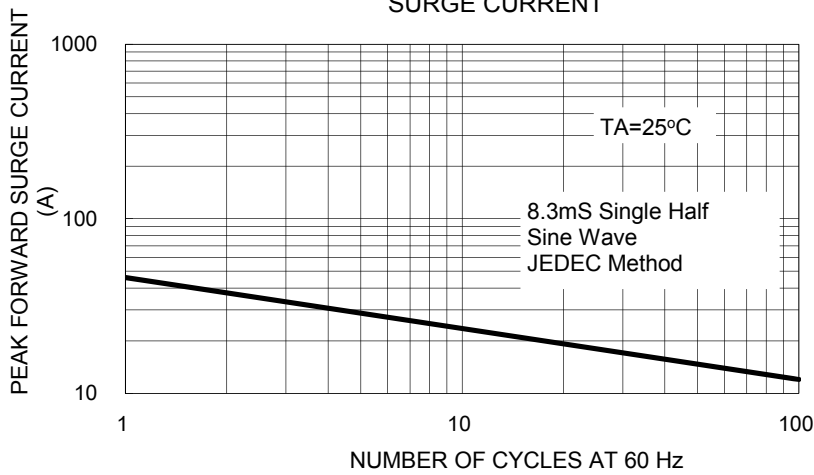


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

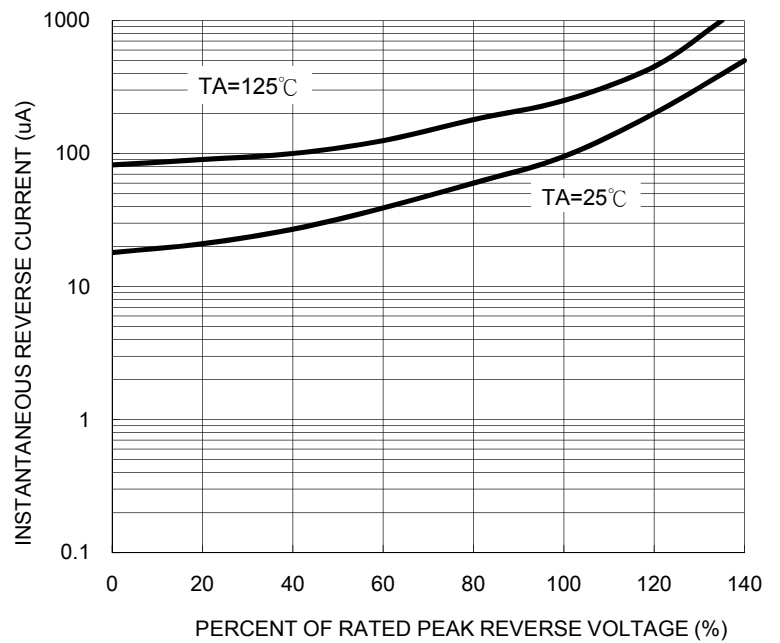


FIG. 5- TYPICAL JUNCTION CAPACITANCE

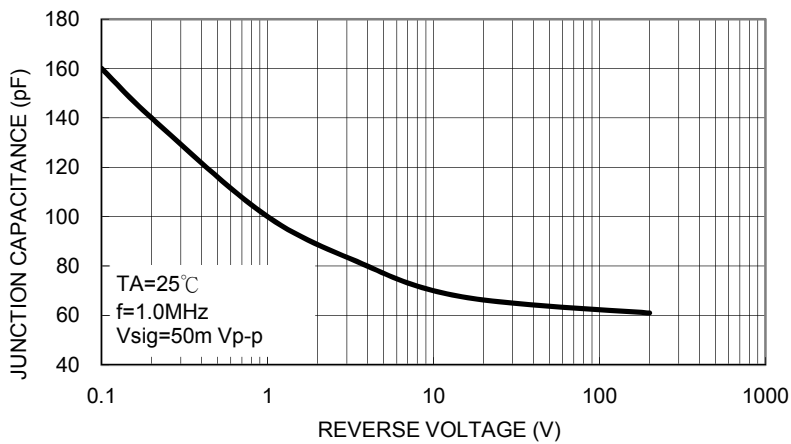
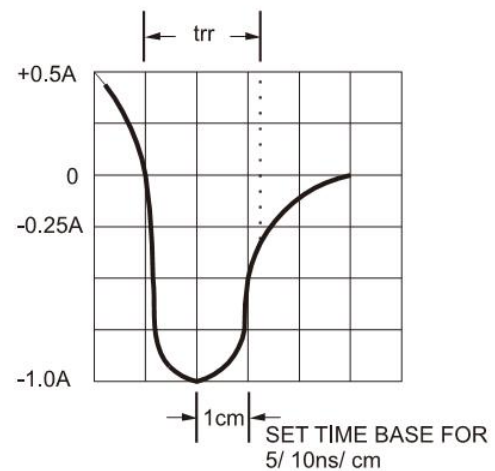
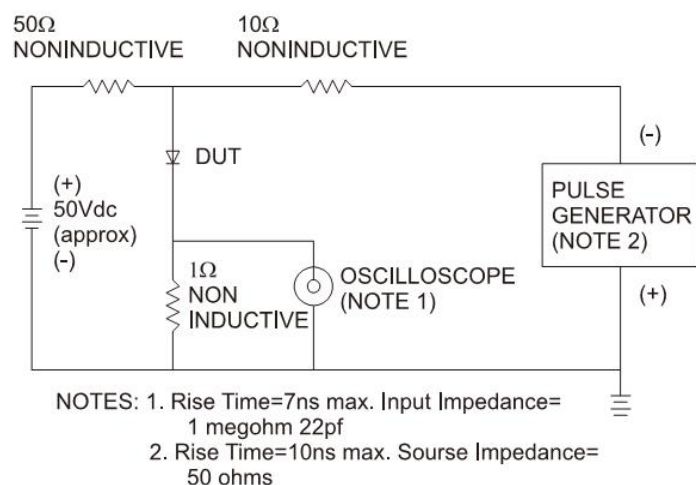


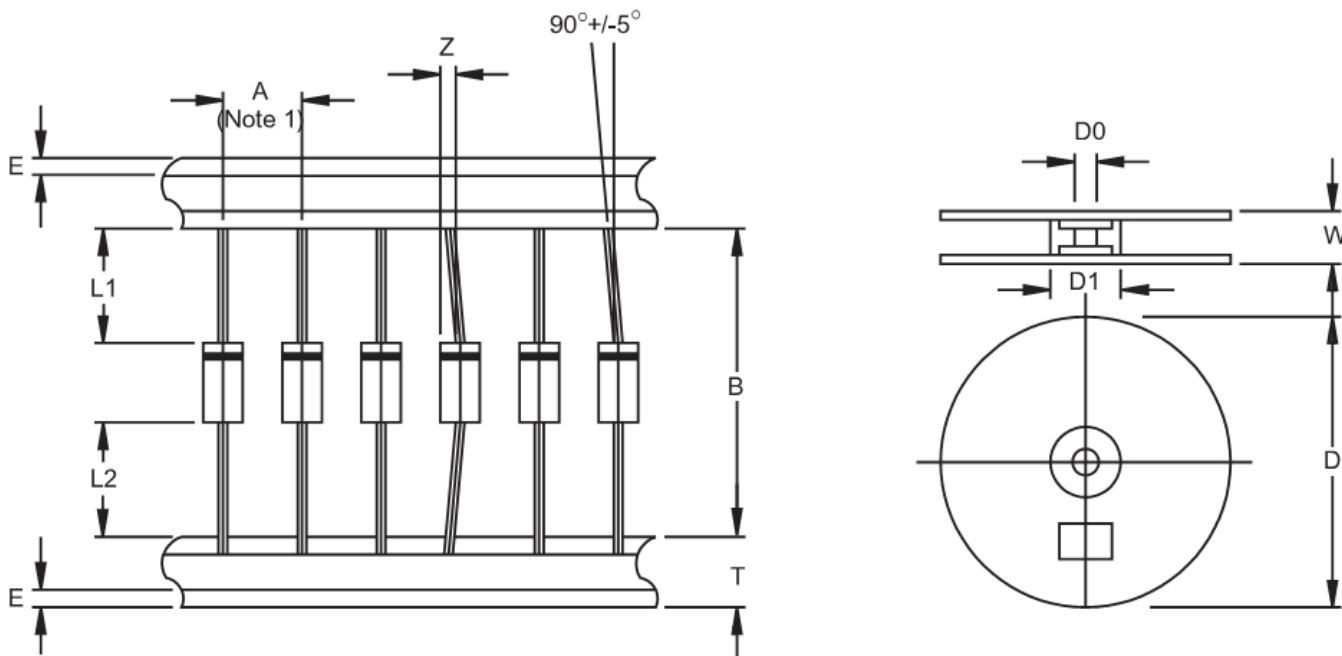
FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



**Ordering information**

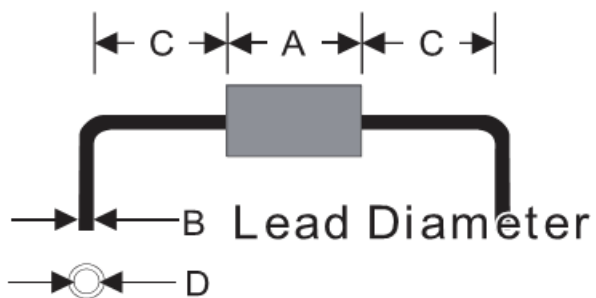
Part No.	Package	Packing	INNER TAPE	Packing code	Packing code (Green)
S1DFx (Note)	DO-201AD	500 / AMMO box	52mm	A0	A0G
	DO-201AD	1.25K / 13" Reel	52mm	R0	R0G
	DO-201AD	500 / Bulk packing		B0	B0G
	DO-201AD	500 / Bulk packing		X0	X0G

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

**AXIAL LEAD TAPING SPECIFICATIONS**


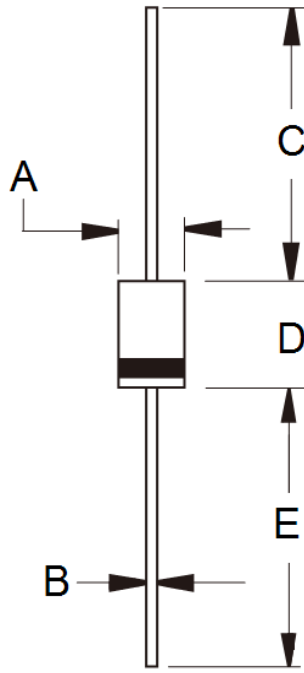
Outline	A	B	Z	T	E	L1-L2	D	D1	D0	W
		±0.5	±1.5	MAX	±0.4	MAX	MAX		±0.3	±0.4
DO-201AD	10	52.4	1.2	6	0.8	1	330	85.7	16.6	76

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