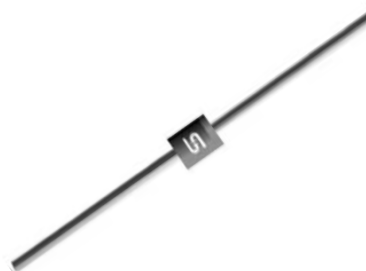


### Features

- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V0
- ✧ Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- ✧ Glass passivated chip junction
- ✧ Excellent high temperature switching
- ✧ Ultrafast recovery time for high efficiency
- ✧ Soft recovery characteristics
- ✧ High temperature soldering guaranteed: 260°C/10 seconds
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.



### Mechanical Data

- ✧ Case: JEDEC DO-204AL molded plastic body over passivated chip
- ✧ Terminals: Pure tin plate, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: Color band denotes cathode
- ✧ Weight: 0.34 grams

### Ordering Information (example)

| Part No. | Package | Packing       | INNER TAPE | Packing code | Packing code (Green) |
|----------|---------|---------------|------------|--------------|----------------------|
| UF1A     | DO-41   | 3K / AMMO box | 52mm       | A0           | A0G                  |

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter  | Symbol                             | UF1A  | UF1B | UF1D     | UF1G | UF1J | UF1K               | UF1M | Units            |
|--|------------------------------------|---|------|----------|------|------|--------------------|------|------------------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$                          | 50  | 100  | 200      | 400  | 600  | 800                | 1000 | V                |
| Maximum RMS Voltage  | $V_{RMS}$                          | 35  | 70   | 140      | 280  | 420  | 560                | 700  | V                |
| Maximum DC Blocking Voltage  | $V_{DC}$                           | 50  | 100  | 200      | 400  | 600  | 800                | 1000 | V                |
| Maximum Average Forward Rectified Current  | $I_{F(AV)}$                        | 1   |      |          |      |      |                    |      | A                |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$                          | 30  |      |          |      |      |                    |      | A                |
| Maximum Instantaneous Forward Voltage (Note 1) @ 1 A   | $V_F$                              | 1.0   |      |          | 1.7  |      |                    | V    |                  |
| Maximum DC Reverse Current at<br>Rated DC Blocking Voltage   | $I_R$                              | @ $T_A=25\text{ }^\circ\text{C}$<br>@ $T_A=125\text{ }^\circ\text{C}$ |      | 5<br>150 |      |      |                    |      | uA<br>uA         |
| Maximum Reverse Recovery Time (Note 2)   | $T_{rr}$                           | 50  |      |          | 75   |      |                    | nS   |                  |
| Typical Junction Capacitance (Note 3)  | $C_j$                              | 17  |      |          |      |      |                    |      | pF               |
| Typical Thermal Resistance   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 60<br>15  |      |          |      |      | $^\circ\text{C/W}$ |      |                  |
| Operating/Storage Temperature Range  | $T_J, T_{STG}$                     | - 55 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: Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

RATINGS AND CHARACTERISTIC CURVES (UF1A THRU UF1M)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

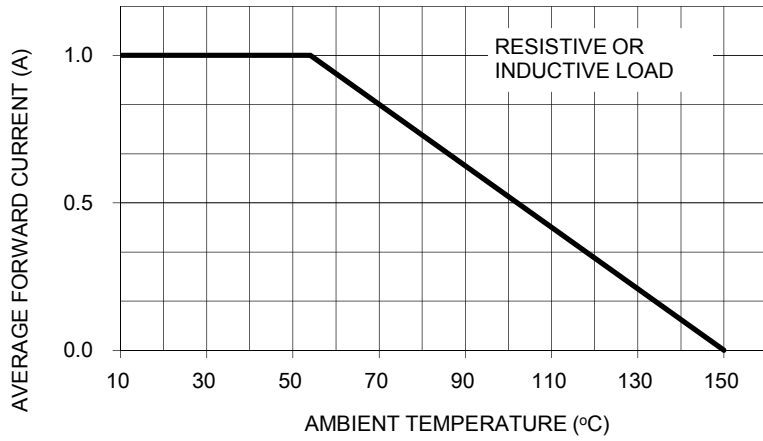


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

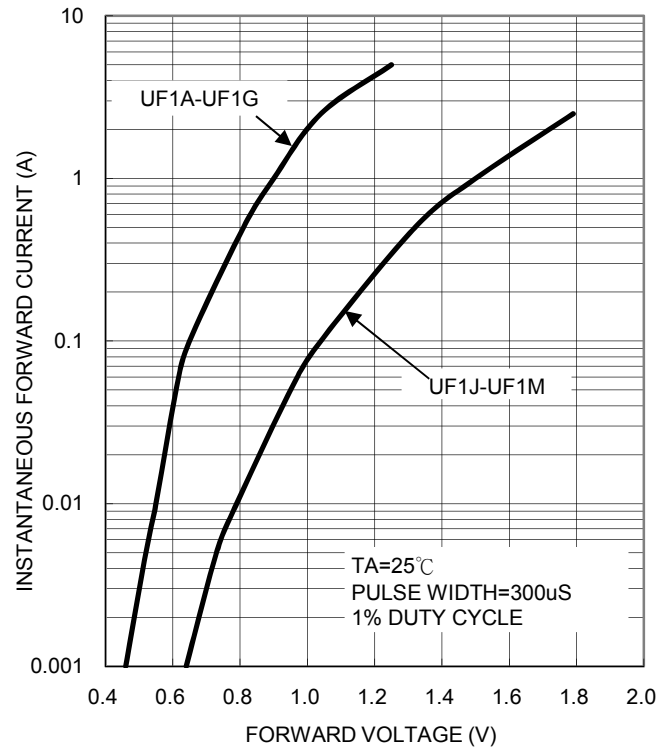


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

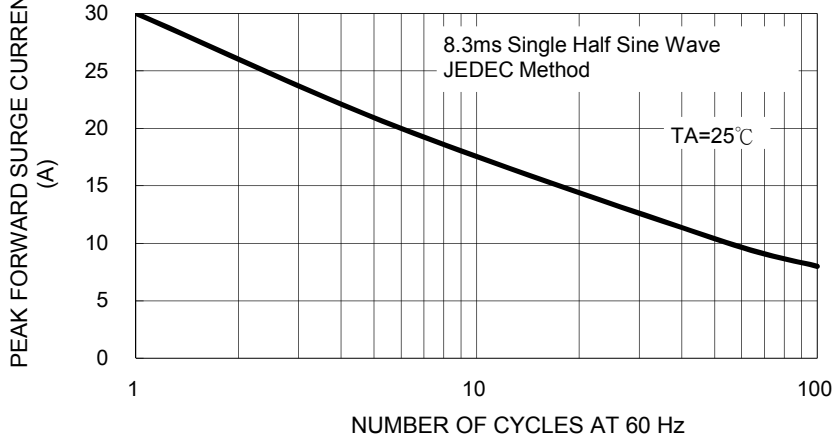


FIG. 5- TYPICAL REVERSE CHARACTERISTICS

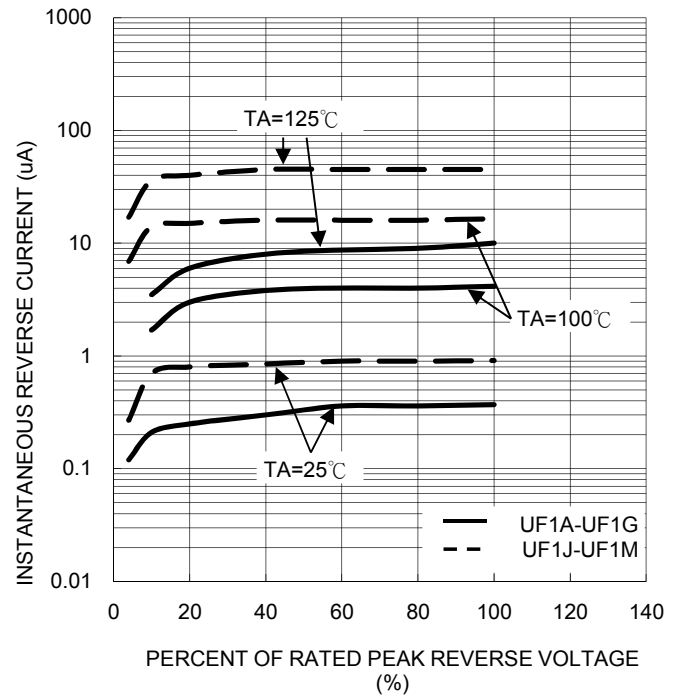


FIG. 4- TYPICAL JUNCTION CAPACITANCE

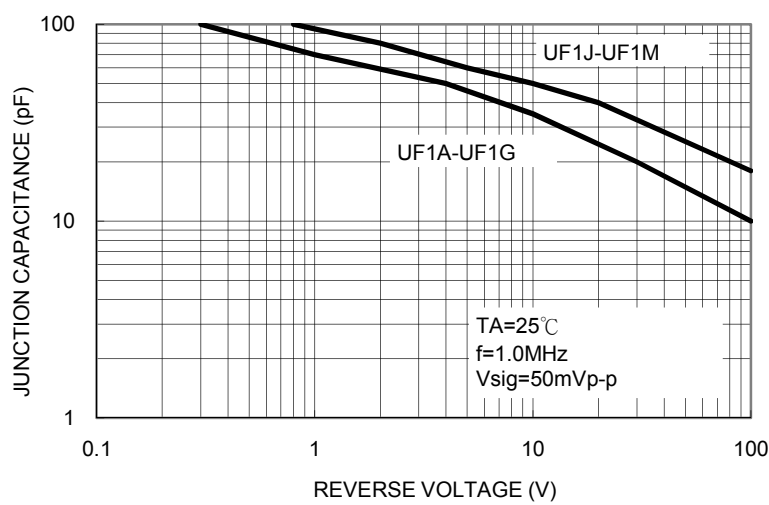
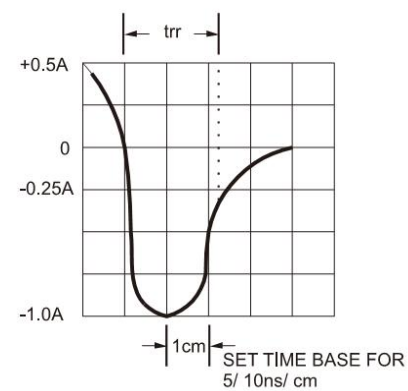
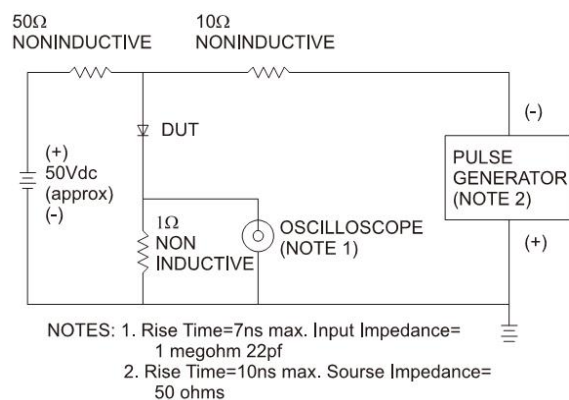


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

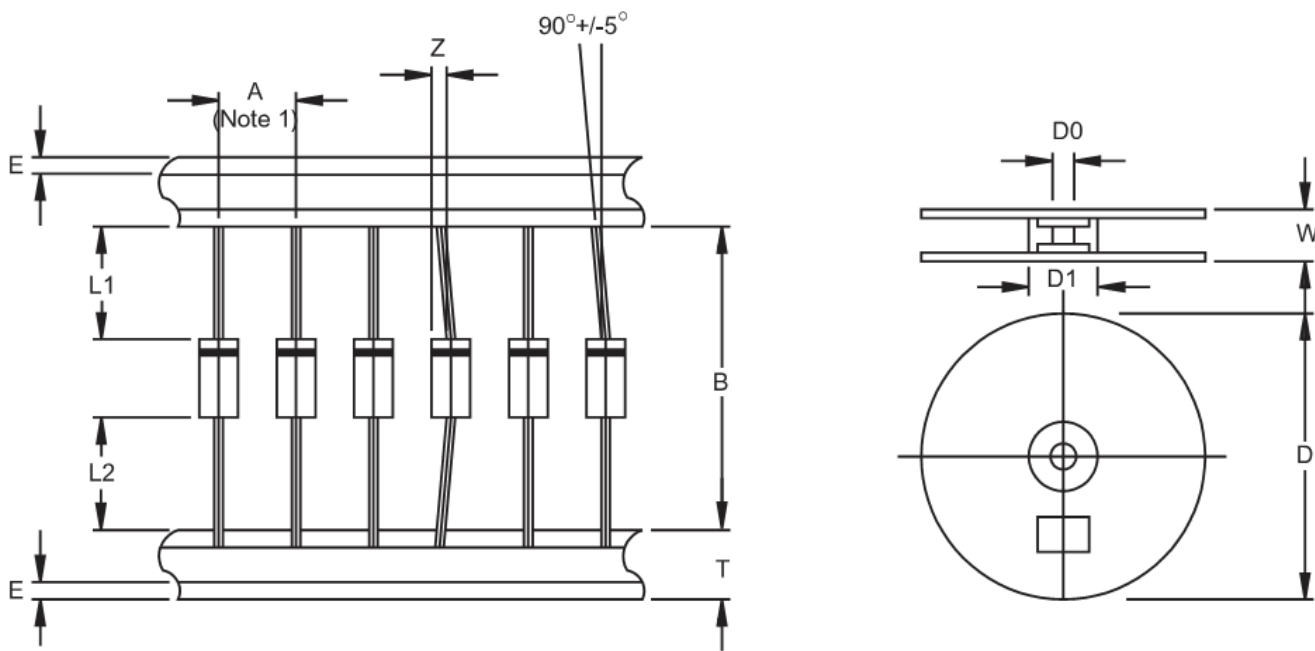


### Ordering information

| Part No. | Package | Packing           | INNER TAPE | Packing code | Packing code (Green) |
|----------|---------|-------------------|------------|--------------|----------------------|
| UF1x     | DO-41   | 3K / AMMO box     | 52mm       | A0           | A0G                  |
|          | DO-41   | 3K / AMMO box     | 26mm       | A1           | A1G                  |
|          | DO-41   | 5K / 13" Reel     | 52mm       | R0           | R0G                  |
|          | DO-41   | 5K / 13" Reel     | 52mm       | R1           | R1G                  |
|          | DO-41   | 1K / Bulk packing |            | B0           | B0G                  |

Note: "x" is Device Code from "A" thru "M".

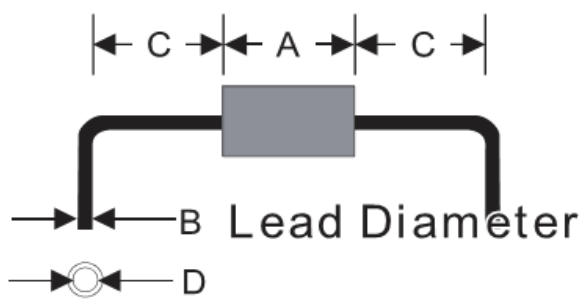
### AXIAL LEAD TAPING SPECIFICATIONS



| 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-41   | 5    | 26   | 1.2 | 6    | 0.8 | 1     | 330 | 85.7 | 16.6 | 76   |
| DO-41   | 5    | 52.4 | 1.2 | 6    | 0.8 | 1     | 330 | 85.7 | 16.6 | 76   |

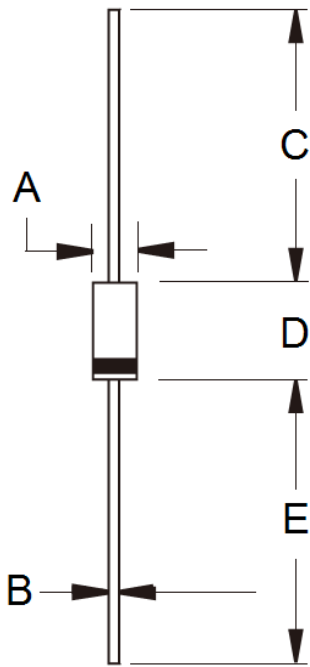
Unit (mm)

### Suggested Mounting Hole Rule



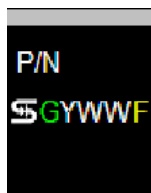
| Symbol | Unit(mm) |
|--------|----------|
| A      | 5.1      |
| B      | 0.8      |
| C      | 3.0      |
| D      | 1.2      |

**Dimensions**



| DIM. | Unit(mm) |      | Unit(inch) |       |
|------|----------|------|------------|-------|
|      | Min      | Max  | Min        | Max   |
| A    | 2.00     | 2.70 | 0.079      | 0.106 |
| B    | 0.71     | 0.86 | 0.028      | 0.034 |
| C    | 25.40    | -    | 1.000      | -     |
| D    | 4.20     | 5.20 | 0.165      | 0.205 |
| E    | 25.40    | -    | 1.000      | -     |

**Marking Diagram**



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