

**GLASSPASSIVATED JUNCTION PLASTIC RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

**FEATURES**

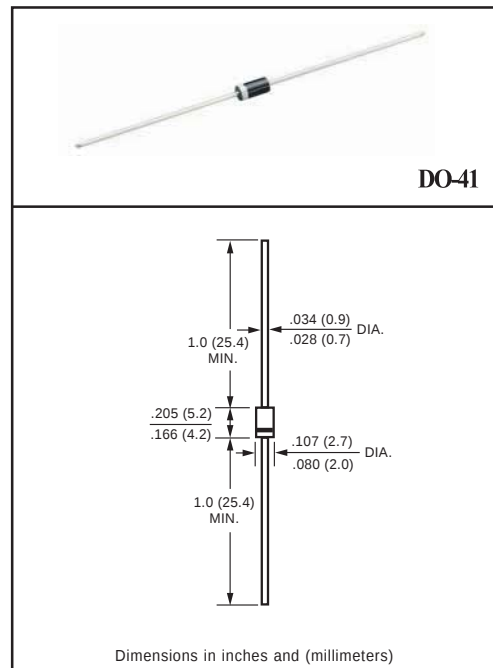
- \* High reliability
- \* Low cost
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* Glass passivated junction
- \* P/N suffix V means AEC-Q101 qualified
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.33 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings 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%.



MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

| RATINGS                                                                                           | SYMBOL           | 1N4001G      | 1N4002G | 1N4003G | 1N4004G | 1N4005G | 1N4006G | 1N4007G | UNITS            |
|---------------------------------------------------------------------------------------------------|------------------|--------------|---------|---------|---------|---------|---------|---------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | VRRM             | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts            |
| Maximum RMS Voltage                                                                               | VRMS             | 35           | 70      | 140     | 280     | 420     | 560     | 700     | Volts            |
| Maximum DC Blocking Voltage                                                                       | VDC              | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts            |
| Maximum Average Forward Rectified Current at TA = 75°C                                            | IO               | 1.0          |         |         |         |         |         |         | Amps             |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM             | 30           |         |         |         |         |         |         | Amps             |
| Typical Current Squared Time                                                                      | I <sup>2</sup> T | 3.74         |         |         |         |         |         |         | A <sup>2</sup> S |
| Typical Junction Capacitance (Note)                                                               | CJ               | 15           |         |         |         |         |         |         | pF               |
| Typical Thermal Resistance                                                                        | RθJA             | 50           |         |         |         |         |         |         | °C/W             |
| Operating and Storage Temperature Range                                                           | TJ, TSTG         | -65 to + 175 |         |         |         |         |         |         | °C               |

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS                                  | SYMBOL | 1N4001G | 1N4002G | 1N4003G | 1N4004G | 1N4005G | 1N4006G | 1N4007G | UNITS |
|--------------------------------------------------|--------|---------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC | VF     | 1.0     |         |         |         |         |         |         | Volts |
| Maximum DC Reverse Current @ TA = 25°C           | IR     | 0.2     |         |         |         |         |         |         | uAmps |
| at Rated DC Blocking Voltage @ TA = 150°C        |        | 400     |         |         |         |         |         |         |       |

NOTES : Measured at 1 MHz and applied reverse voltage of 4.0 volts

2018-01  
REV:B

## RATING AND CHARACTERISTIC CURVES ( 1N4001G THRU 1N4007G )

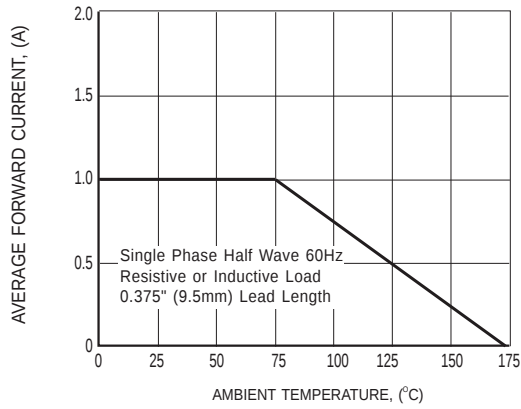


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

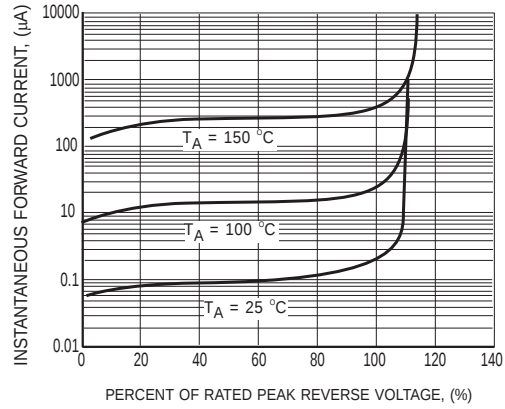


FIG.2 MAXIMUM REVERSE CHARACTERISTICS

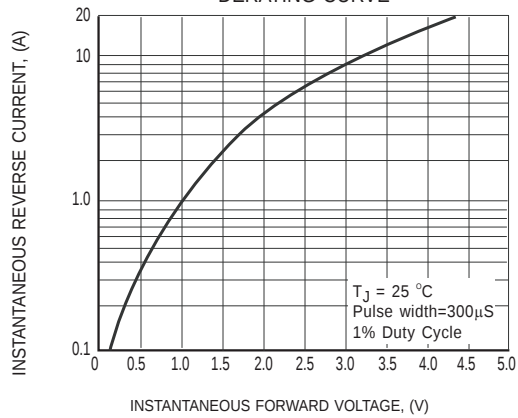


FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

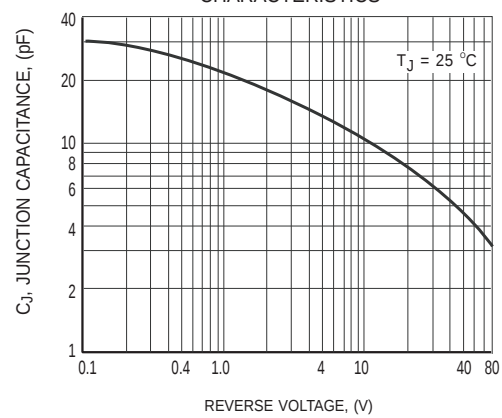


FIG.4 TYPICAL JUNCTION CAPACITANCE

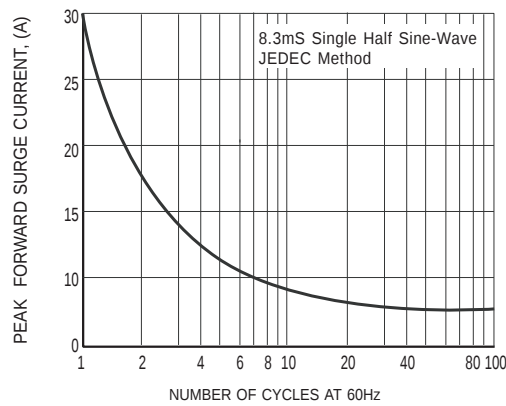


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

# AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

Axial lead devices are packed in accordance with EIA standard RS-296-D and specifications given below.

| COMPONENT<br>OUTLINE | COMPONENT<br>PITCH A       | INNER TAPE<br>PITCH B      |                            | CUMULATIVE PITCH<br>TOLERANCE |
|----------------------|----------------------------|----------------------------|----------------------------|-------------------------------|
|                      | $\pm 0.5\text{mm} (.020")$ | $\pm 0.5\text{mm} (.020")$ | $\pm 1.5\text{mm} (.059")$ |                               |
| R-1                  | 5.0mm                      | 26.0mm                     |                            | 2.0mm/20pitch                 |
| A-405                | 5.0mm                      | 26.0mm                     |                            | 2.0mm/20pitch                 |
| A-405                | 5.0mm                      |                            | 52.4mm                     | 2.0mm/20pitch                 |
| DO-41                | 5.0mm                      | 26.0mm                     |                            | 2.0mm/20pitch                 |
| DO-41                | 5.0mm                      |                            | 52.4mm                     | 2.0mm/10pitch                 |
| DO-15                | 5.0mm                      |                            | 52.4mm                     | 2.0mm/10pitch                 |
| R-3                  | 5.0mm                      |                            | 52.4mm                     | 2.0mm/10pitch                 |
| DO-201AD             | 10.0mm                     |                            | 52.4mm                     | 2.0mm/10pitch                 |
| R-6                  | 10.0mm                     |                            | 52.4mm                     | 2.0mm/10pitch                 |

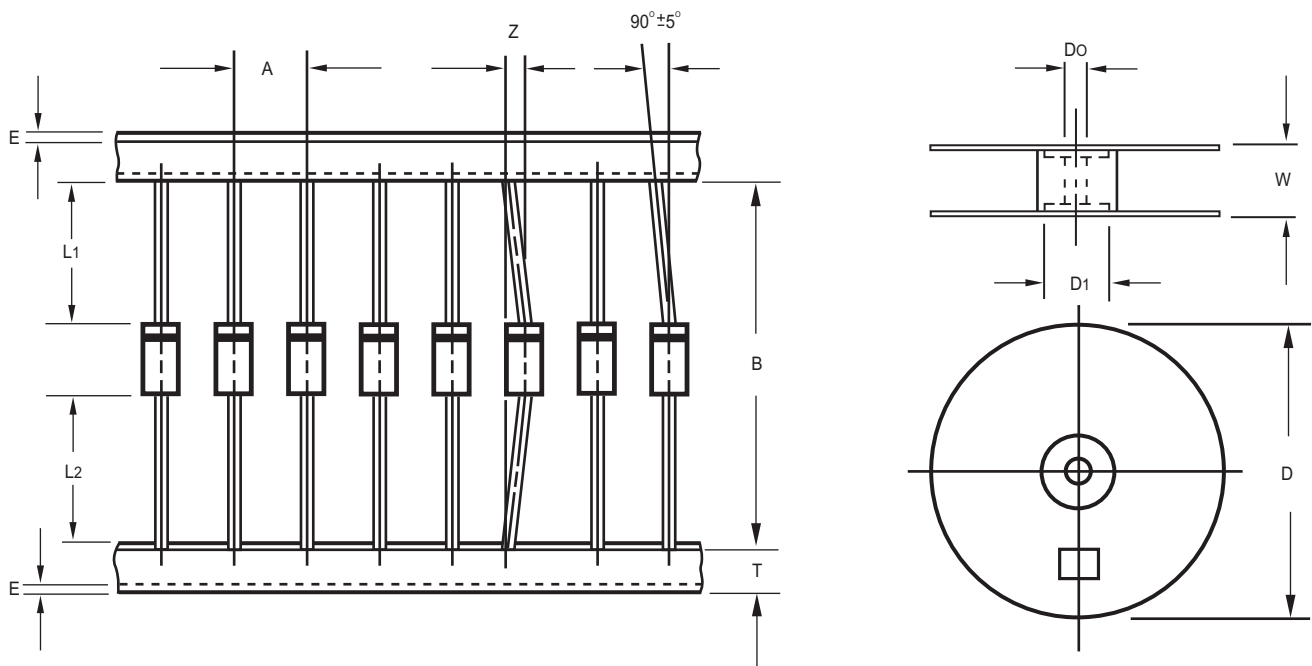


Fig.: Configuration of AXIAL LEAD TAPING

| ITEM                  | SYMBOL    | SPECIFICATIONS (mm) | SPECIFICATIONS (inch) |
|-----------------------|-----------|---------------------|-----------------------|
| Component alignment   | Z         | 1.2 Max.            | 0.047 Max.            |
| Tape width            | T         | $6.0 \pm 0.4$       | $0.236 \pm 0.016$     |
| Exposed adhesive      | E         | 0.8 Max.            | 0.032 Max.            |
| Body eccentricity     | $ L1-L2 $ | 1.0 Max.            | 0.039 Max.            |
| Reel outside diameter | D         | 330.0               | 13.0                  |
| Reel inner diameter   | D1        | $85.7 \pm 0.3$      | $3.374 \pm 0.012$     |
| Feed hole diameter    | D0        | $30.5 \pm 0.4$      | $1.201 \pm 0.016$     |
| Reel width            | W         | $79.0 \pm 1.0$      | $3.110 \pm 0.039$     |

Notes : 1. Each component lead shall be sandwiched between tapes for a minimum of 3.2mm (0.126").  
2. The reel width "W" for 26mm taping is  $50.0 \pm 1.0\text{mm}$  ( $1.97" \pm 0.040"$ ).

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### BULK PACK

| PACKAGE | PACKING CODE | EA PER BOX | INNER BOX SIZE<br>(mm) | CARTON SIZE<br>(mm) | EA PER CARTON | GROSS<br>WEIGHT(Kg) |
|---------|--------------|------------|------------------------|---------------------|---------------|---------------------|
| DO-41   | -B           | 1,000      | 194*75*21              | 415*220*255         | 50,000        | 16.2                |

eg(TYPE):1N4007G-B

### REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE<br>(mm) | TAPE SPACE<br>(mm) | REEL DIA<br>(mm) | CARTON SIZE<br>(mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|-------------------------|--------------------|------------------|---------------------|---------------|------------------|
| DO-41   | -T           | 5,000       | 5,000            | 5.0                     | 52                 | 330              | 355*350*335         | 20,000        | 10.49            |

eg(TYPE):1N4007G-T

### AMMO PACK

| PACKAGE | PACKING CODE | REEL<br>( EA ) | COMPONENT SPACE(mm) | TAPE SPACE<br>(mm) | BOX SIZE<br>(mm) | CARTON SIZE(mm) | CARTON<br>( EA ) | GROSS WEIGHT (Kg) |
|---------|--------------|----------------|---------------------|--------------------|------------------|-----------------|------------------|-------------------|
| DO-41   | -F           | 3,000          | 5.0                 | 52                 | 255*73*100       | 400*268*225     | 30,000           | 13.0              |
| DO-41   | -E           | 3,000          | 5.0                 | 26                 | 256*48*94        | 365*270*217     | 42,000           | 12.41             |

eg(TYPE):1N4007G-F,1N4007G-E

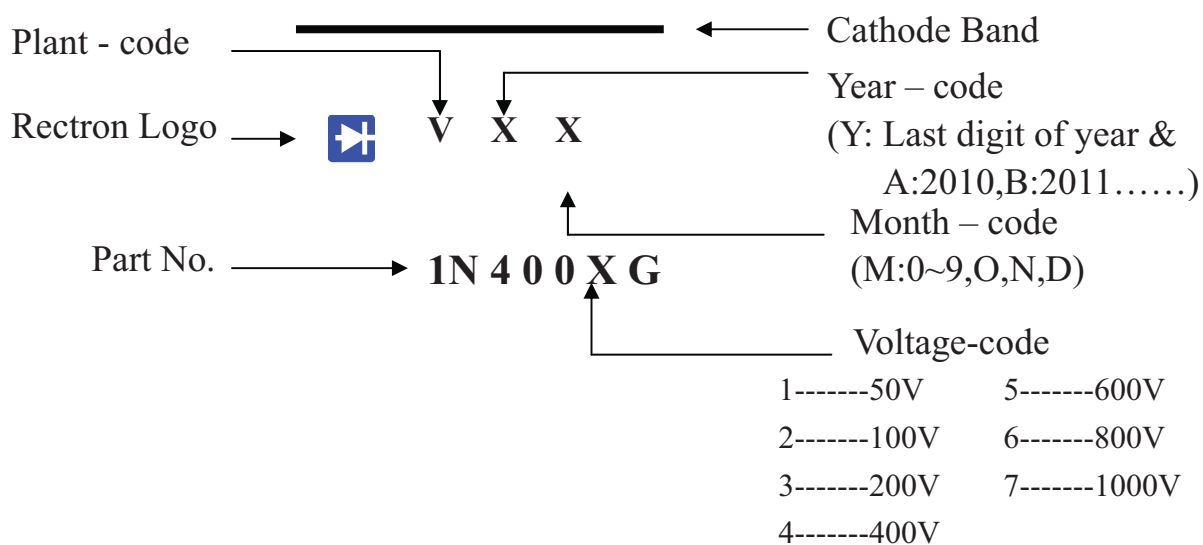


## Attachment information about 1N400XG

### 1. Internal Circuit



### 2. Marking on the body



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