

**GLASS PASSIVATED JUNCTION PLASTIC RECTIFIER**

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

**FEATURES**

- \* High reliability
- \* 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**

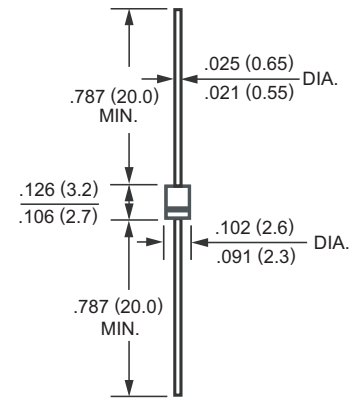
- \* Case: Molded plastic black body
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.19 gram

**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%.



**R-1**



Dimensions in inches and (millimeters)

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

| RATINGS                                                                                           | SYMBOL                            | 1A1G         | 1A2G | 1A3G | 1A4G | 1A5G | 1A6G | 1A7G | UNITS            |
|---------------------------------------------------------------------------------------------------|-----------------------------------|--------------|------|------|------|------|------|------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | V <sub>RRM</sub>                  | 50           | 100  | 200  | 400  | 600  | 800  | 1000 | Volts            |
| Maximum RMS Voltage                                                                               | V <sub>RMS</sub>                  | 35           | 70   | 140  | 280  | 420  | 560  | 700  | Volts            |
| Maximum DC Blocking Voltage                                                                       | V <sub>DC</sub>                   | 50           | 100  | 200  | 400  | 600  | 800  | 1000 | Volts            |
| Maximum Average Forward Rectified Current at TA = 25°C                                            | I <sub>O</sub>                    | 1.0          |      |      |      |      |      |      | Amps             |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I <sub>FSM</sub>                  | 25           |      |      |      |      |      |      | Amps             |
| Typical Current Squared Time                                                                      | I <sup>2</sup> T                  | 2.59         |      |      |      |      |      |      | A <sup>2</sup> S |
| Typical Junction Capacitance (Note)                                                               | C <sub>J</sub>                    | 15           |      |      |      |      |      |      | pF               |
| Typical Thermal Resistance                                                                        | R <sub>θJA</sub>                  | 60           |      |      |      |      |      |      | °C/W             |
| Operating and Storage Temperature Range                                                           | T <sub>J</sub> , T <sub>STG</sub> | -55 to + 150 |      |      |      |      |      |      | °C               |

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

| CHARACTERISTICS                                                                                            |                         | SYMBOL         | 1A1G | 1A2G | 1A3G | 1A4G | 1A5G | 1A6G | 1A7G | UNITS |
|------------------------------------------------------------------------------------------------------------|-------------------------|----------------|------|------|------|------|------|------|------|-------|
| Maximum Instantaneous Forward Voltage at 1.0A DC                                                           |                         | V <sub>F</sub> | 1.0  |      |      |      |      |      |      | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage                                                 | @T <sub>A</sub> = 25°C  | I <sub>R</sub> | 1.0  |      |      |      |      |      |      | uAmps |
|                                                                                                            | @T <sub>A</sub> = 150°C |                | 800  |      |      |      |      |      |      |       |
| Maximum Full Load Reverse Current Full Cycle Average<br>.375" (9.5mm) lead length at T <sub>L</sub> = 75°C |                         |                |      | 100  |      |      |      |      |      |       |

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

2018-01  
REV:C

# RATING AND CHARACTERISTIC CURVES ( 1A1G THRU 1A7G )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

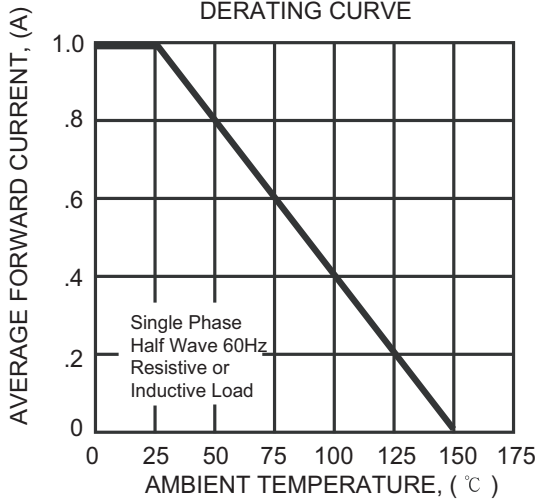


FIG. 2 - MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

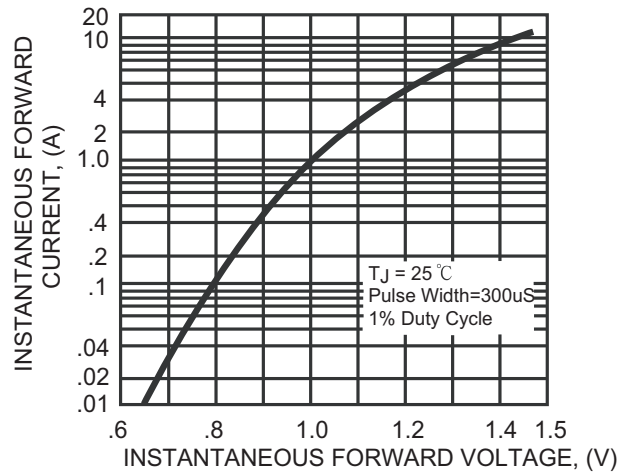


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

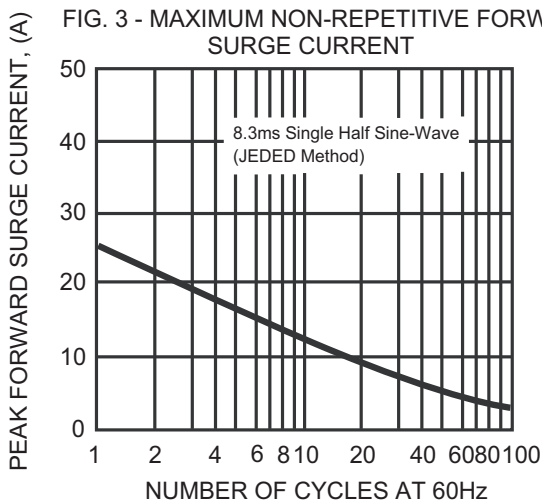


FIG. 4 - MAXIMUM REVERSE CHARACTERISTICS

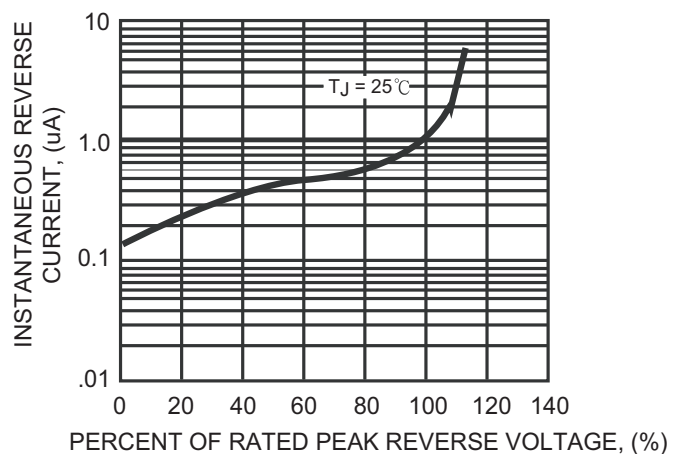
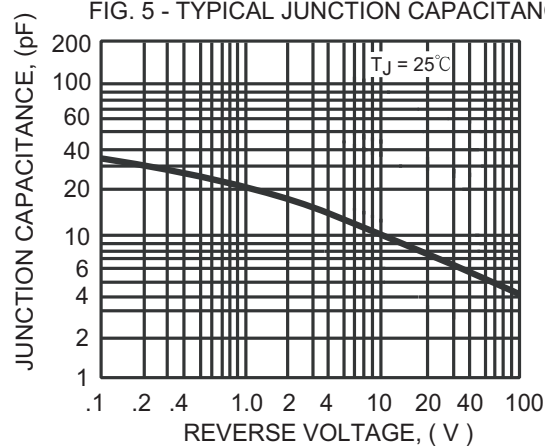


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



# 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 |
|----------------------|----------------------------|----------------------------|----------------------------|-------------------------------|
|                      | $\pm 0.5\text{mm} (.020")$ | $\pm 0.5\text{mm} (.020")$ | $\pm 1.5\text{mm} (.059")$ |                               |
| T-1                  | 5.0mm                      | 26.0mm                     |                            | 2.0mm/20pitch                 |
| 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                 |

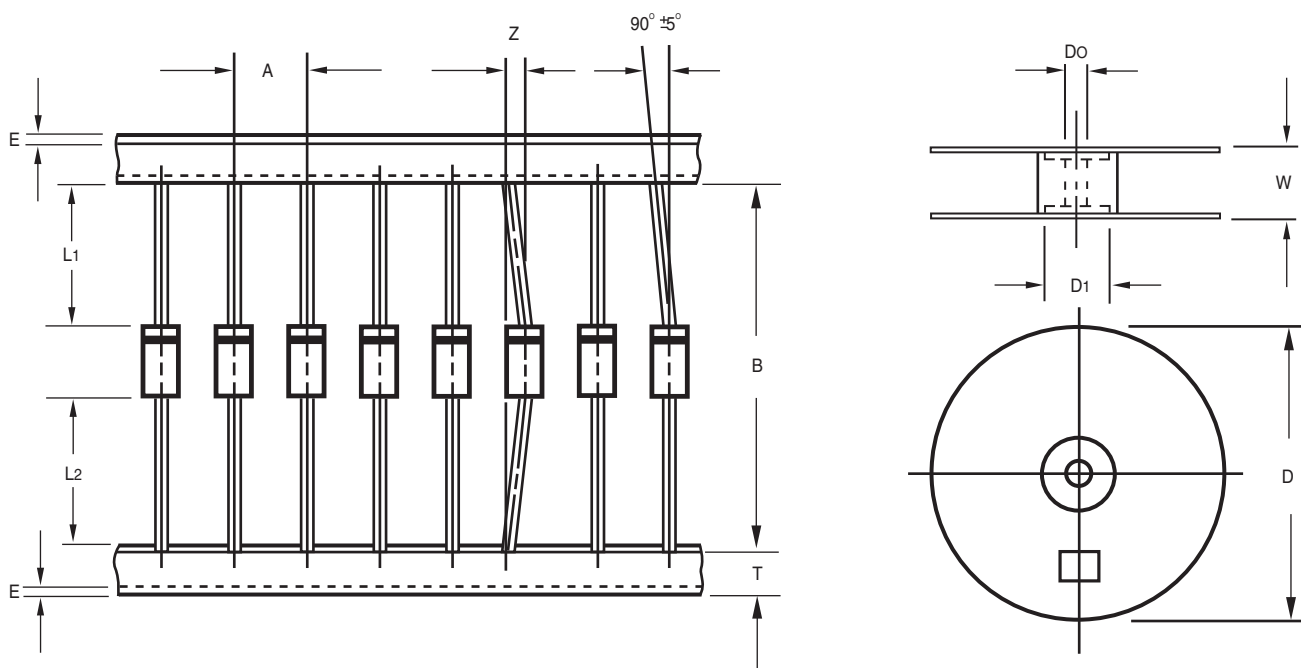


Fig.: Configuration of AXIAL LEAD TAPING

| 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    | Do        | $30.5 \pm 0.4$      | $1.201 \pm 0.016$     |
| 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  $50.0 \pm 1.0\text{mm}$  ( $1.97" \pm 0.040"$ ).

# RADIAL-TAPING SPECIFICATIONS FOR RECTIFIERS-I TAPING

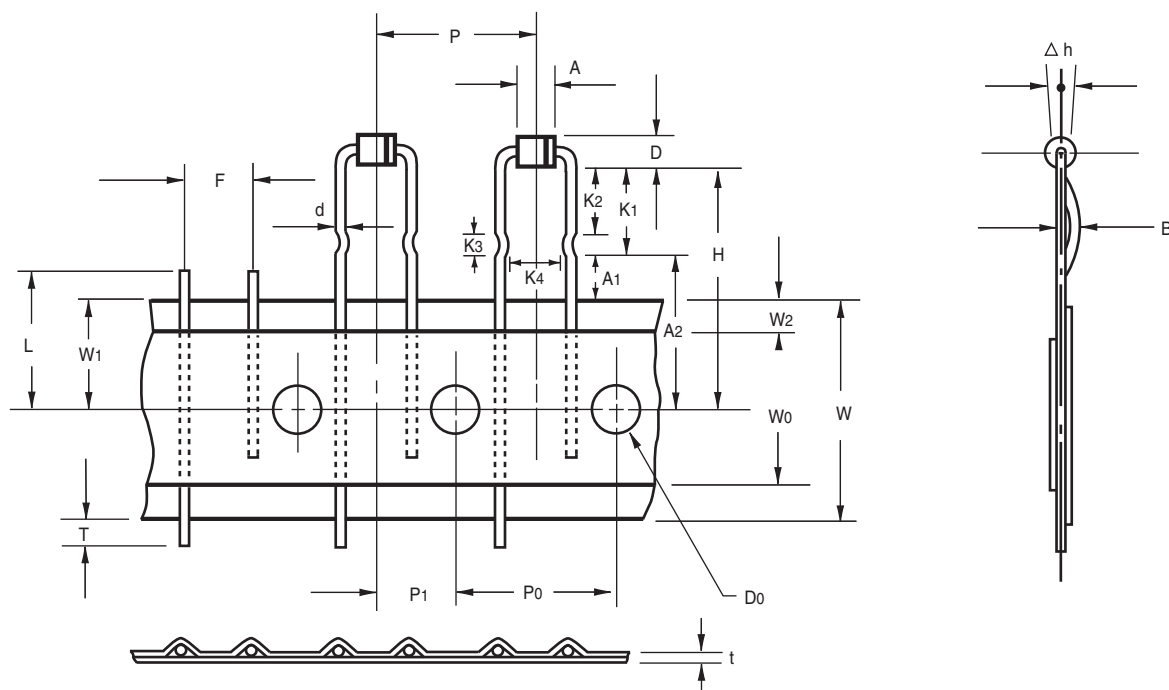


Fig.: Configuration of I-TAPING

| ITEM                             | SYMBOL | SPECIFICATIONS(mm) | SPECIFICATIONS(inch) |
|----------------------------------|--------|--------------------|----------------------|
| Lead-wire clinch height          | A2     | 15.5± 0.2          | 0.610± 0.008         |
| Kinker height                    | K1     | 5.0± 1.0           | 0.197± 0.039         |
| Kinker position                  | K2     | 3.0± 1.0           | 0.118± 0.039         |
| Lead kinker length               | K3     | 3.0± 1.0           | 0.118± 0.039         |
| Component kinker spacing         | K4     | 2.5± 1.0           | 0.098± 0.039         |
| Adhesive tape position           | A1     | 6.0 Min.           | 0.236 Min.           |
| Body diameter                    | D      | 2.5± 0.2           | 0.098± 0.008         |
| Body length                      | A      | 3.1± 0.3           | 0.122± 0.012         |
| Lead-wire diameter               | d      | 0.6± 0.1           | 0.024± 0.004         |
| Component pitch                  | P      | 12.7± 1.0          | 0.500± 0.039         |
| Feed hole pitch                  | P0     | 12.7± 1.0          | 0.500± 0.039         |
| Component lead spacing           | F      | 5.0± 0.8           | 0.197± 0.031         |
| Deflection                       | Δh     | 0.0± 2.0           | 0.0± 0.079           |
| Tape width                       | W      | 18.0+1.0/-0.5      | 0.709+0.039/-0.020   |
| Hole-down tape width             | W0     | 12.5 Min.          | 0.492 Min.           |
| Hole position                    | W1     | 9.0+0.7/-0.5       | 0.354+0.028/-0.020   |
| Length from seating plane        | H      | 20.0± 0.5          | 0.787± 0.020         |
| Feed hole diameter               | Do     | 4.0± 0.3           | 0.157± 0.012         |
| Total tape thickness             | t      | 0.7± 0.2           | 0.028± 0.008         |
| Cut out length                   | L      | 11.0 Max.          | 0.433 Max.           |
| Lead protrusion                  | T      | 2.0 Max.           | 0.079 Max.           |
| Center of seating plane location | P1     | 6.35± 0.7          | 0.250± 0.028         |
| Adhesive tape position           | W2     | 3.0 Max.           | 0.118 Max.           |
| Lead bend                        | B      | 1.0 Max.           | 0.039 Max.           |

Notes : 1.Devices are pecked in accordance with EIA standard RS-468 and specifications listed above. Available only for R-1 product utilizing 0.6mm diameter leads.  
2.Maximum cumulative pitch tolerance : 1.0mm/20pitch.  
3.Standard packing code is "I"

# RADIAL-TAPING SPECIFICATIONS FOR RECTIFIERS-J TAPING

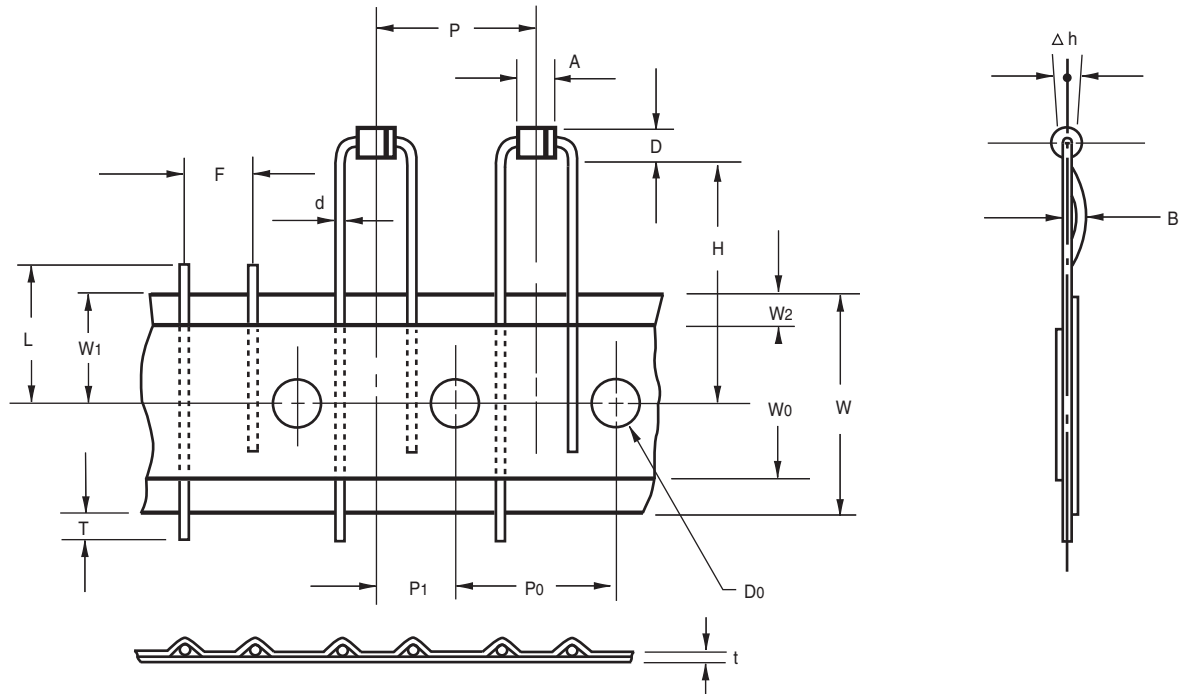


Fig.: Configuration of J-TAPING

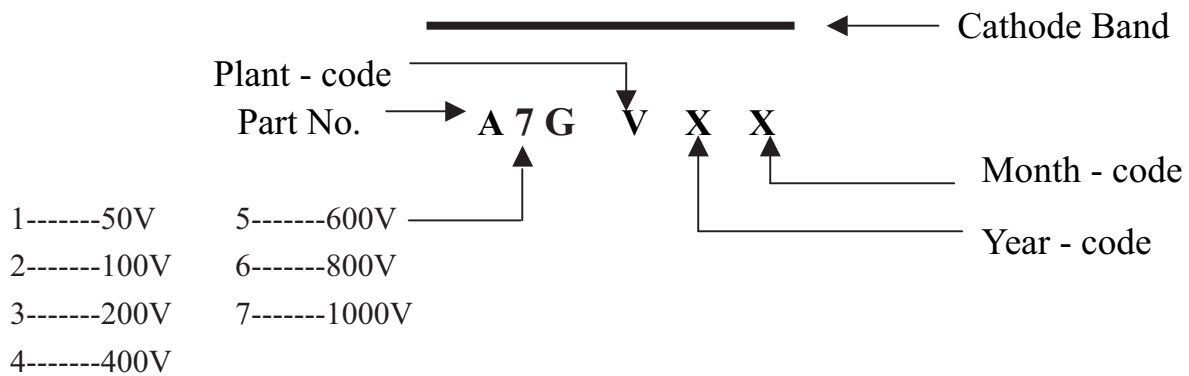
| ITEM                             | SYMBOL | SPECIFICATIONS(mm) | SPECIFICATIONS(inch) |
|----------------------------------|--------|--------------------|----------------------|
| Body diameter                    | D      | 2.5± 0.2           | 0.098± 0.008         |
| Body height                      | A      | 3.1± 0.3           | 0.122± 0.012         |
| Lead-wire diameter               | d      | 0.6± 0.1           | 0.024± 0.004         |
| Component pitch                  | P      | 12.7± 1.0          | 0.500± 0.039         |
| Feed hole pitch                  | P0     | 12.7± 1.0          | 0.500± 0.039         |
| Component lead spacing           | F      | 5.0± 0.8           | 0.197± 0.032         |
| Deflection                       | Δ h    | 0.0± 2.0           | 0.000± 0.079         |
| Tape width                       | W      | 18.0+1.0/-0.5      | 0.709+0.039/-0.020   |
| Hold-down tape width             | W0     | 12.5 Min.          | 0.492 Min.           |
| Hold-position                    | W1     | 9.0+0.7/-0.50      | 0.354+0.028/-0.020   |
| Length from seating plane        | H      | 20.0± 0.5          | 0.787± 0.020         |
| Feed hole diameter               | Do     | 4.0± 0.3           | 0.157± 0.012         |
| Overall tape thickness           | t      | 0.7± 0.2           | 0.028± 0.008         |
| Cut out length                   | L      | 11.0 Max.          | 0.433 Max.           |
| Lead protrusion                  | T      | 1.0 Max.           | 0.039 Max.           |
| Center of seating plane location | P1     | 6.35± 0.7          | 0.250± 0.028         |
| Adhesive tape border             | W2     | 30 Max.            | 1.181 Max.           |
| Lead bend                        | B      | 1.0 Max.           | 0.039 Max.           |

Notes : 1.Devices are packed in accordance with EIA standard RS-468 and specification given above. Available only for R-1 product utilizing 0.6mm diameter leads.  
2.Maximum cumulative pitch tolerance:1.0mm/20pitch.  
3.Standard packing code is "J".

## 1. Internal Circuit



## 2. Marking on the body



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| R-1     | -T           | 5,000       | 5,000            | 5.0                  | 52              | 330           | 355*350*335      | 20,000        | 7.37             |

### AMMO PACK

| PACKAGE | PACKING CODE | REEL ( EA ) | COMPONENT SPACE(mm) | TAPE SPACE (mm) | BOX SIZE (mm) | CARTON SIZE(mm) | CARTON ( EA ) | GROSS WEIGHT (Kg) |
|---------|--------------|-------------|---------------------|-----------------|---------------|-----------------|---------------|-------------------|
| R-1     | -F           | 3,000       | 5.0                 | 52              | 255*73*100    | 400*268*225     | 30,000        | 8.5               |
| R-1     | -E           | 3,000       | 5.0                 | 26              | 256*48*94     | 365*270*217     | 42,000        | 8.35              |
| R-1     | -J           | 3,000       | 12.7                | ---             | 325*170*40    | 355*350*335     | 42,000        | 13.93             |
| R-1     | -I           | 2,000       | 12.7                | ---             | 325*170*40    | 355*350*335     | 28,000        | 9.69              |

### BULK PACK

| PACKAGE | PACKING CODE | EA PER BOX | INNER BOX SIZE (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|------------|---------------------|------------------|---------------|------------------|
| R-1     | -B           | 1000       | 192*75*21           | 415*220*255      | 50,000        | 11.74            |

## DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Rectron:](#)

[1A2G-T](#) [1A2G-B](#) [1A1G-T](#) [1A1G-B](#) [1A3G-B](#) [1A3G-T](#) [1A5G-B](#) [1A5G-T](#) [1A7G-T](#) [1A7G-B](#) [1A4G-B](#) [1A4G-T](#) [1A6G-B](#) [1A6G-T](#) [1A1G](#) [1A2G](#) [1A3G](#) [1A4G](#) [1A5G](#) [1A6G](#) [1A7G](#)