

**SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 2.0 Amperes**

**FEATURES**

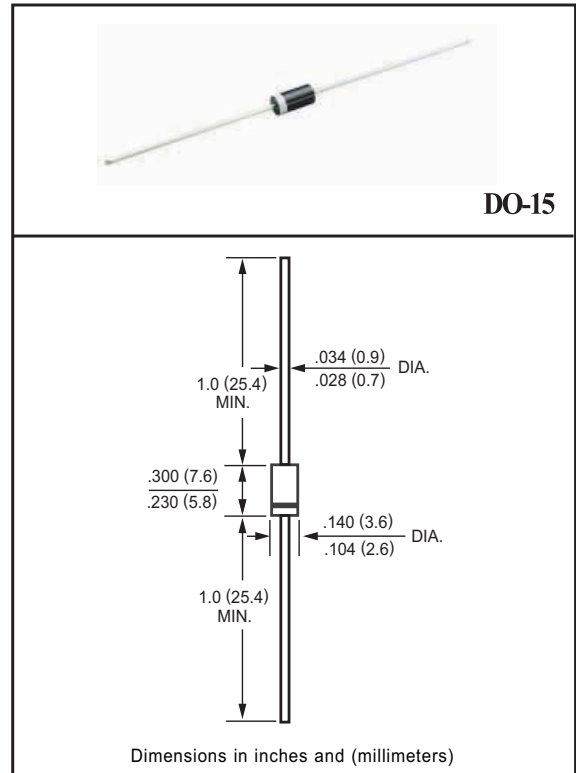
- \* Low cost
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.38 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           | RL201        | RL202 | RL203 | RL204 | RL205 | RL206 | RL207 | 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               | 2.0          |       |       |       |       |       |       | Amps                |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM             | 70           |       |       |       |       |       |       | Amps                |
| Typical Current Squared Time   | I <sup>2</sup> t | 20.33        |       |       |       |       |       |       | A <sup>2</sup> /Sec |
| Typical Junction Capacitance (Note)  | CJ               | 20           |       |       |       |       |       |       | pF                  |
| Typical Thermal Resistance   | RθJA             | 40           |       |       |       |       |       |       | °C/W                |
| Operating and Storage Temperature Range  | TJ, TSTG         | -55 to + 150 |       |       |       |       |       |       | °C                  |

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

| CHARACTERISTICS  | SYMBOL      | RL201 | RL202 | RL203 | RL204 | RL205 | RL206 | RL207 | UNITS |       |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Instantaneous Forward Voltage at 2.0A DC   | VF          |       |       |       |       | 1.0   |       |       |       | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                                      | @TA = 25°C  |       |       |       |       | 1.0   |       |       |       | uAmps |
|  | @TA = 100°C |       |       |       |       | 50    |       |       |       |       |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 75°C | IR          |       |       |       |       | 30    |       |       |       | uAmps |

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

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# RATING AND CHARACTERISTIC CURVES ( RL201 THRU RL207 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

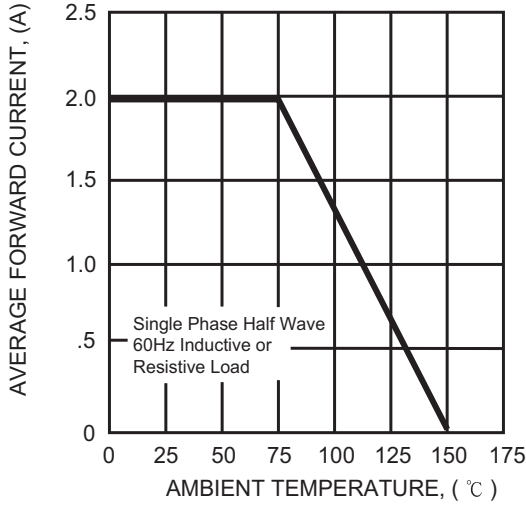


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

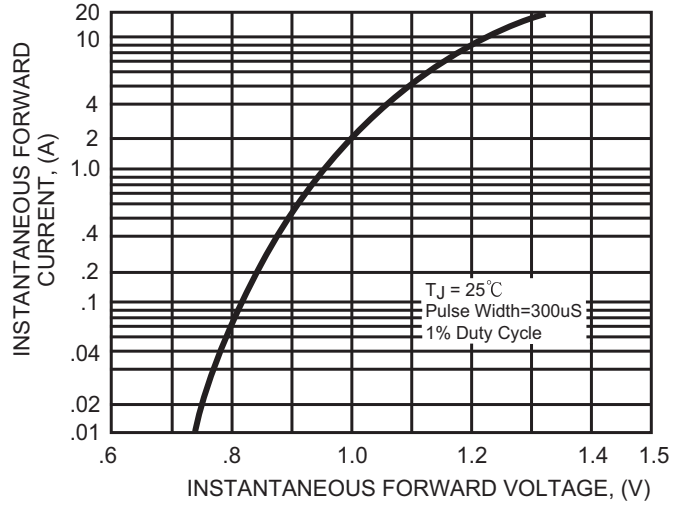


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

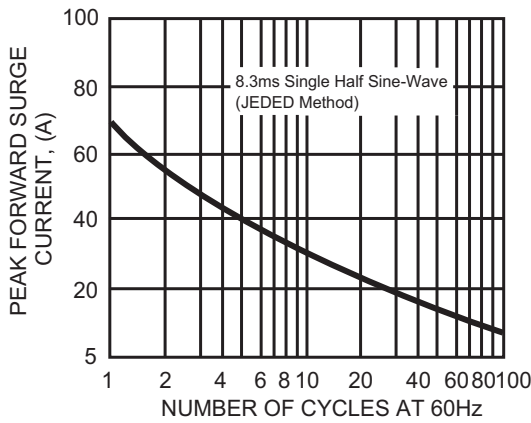


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

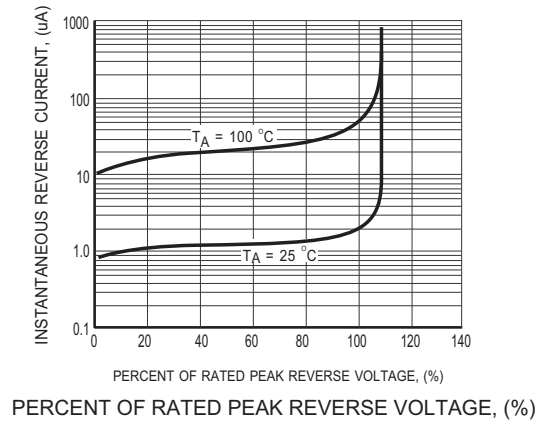
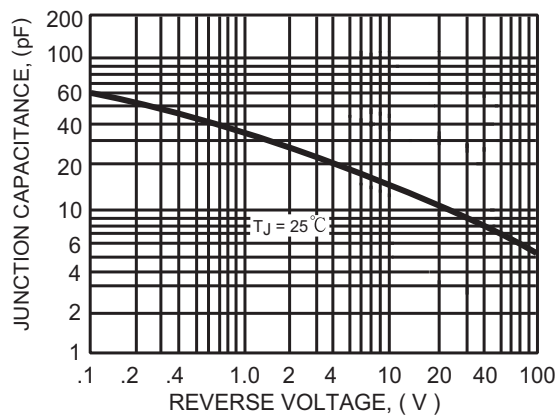


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



# 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                 |

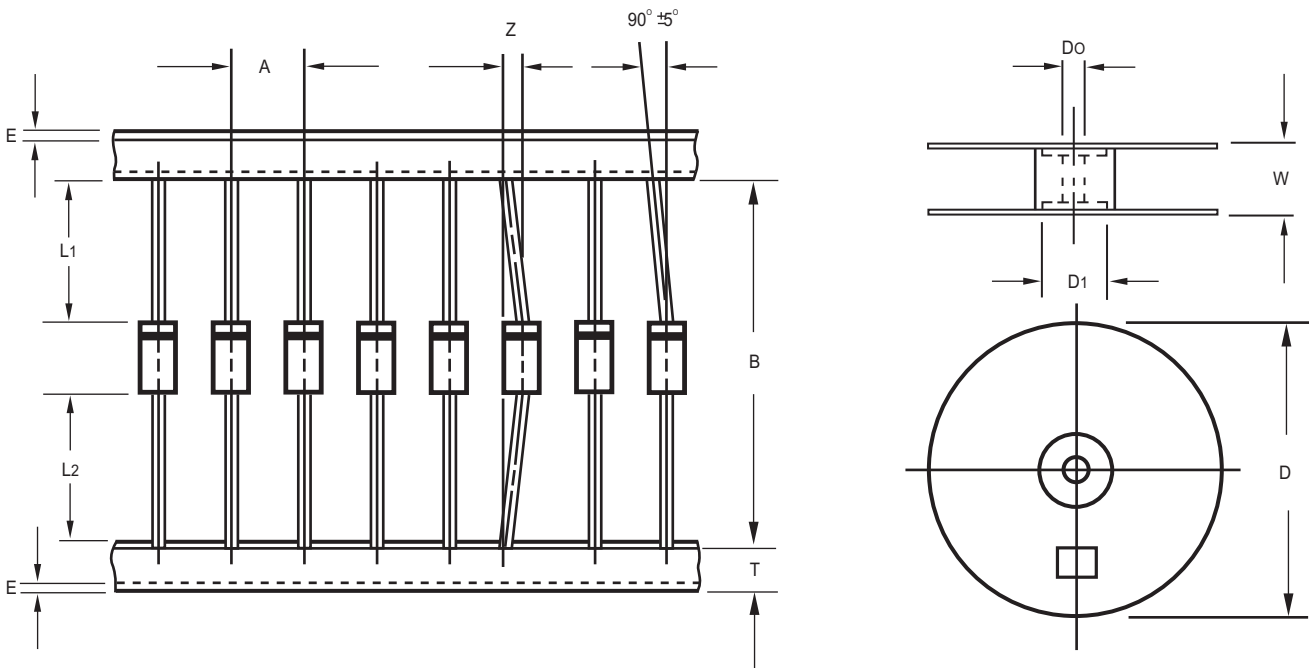


Fig.: Configuration of AXIAL LEAD TAPING

| 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  $50.0 \pm 1.0\text{mm} (1.97" \pm 0.040")$ .

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### BULK PACK

| PACKAGE | PACKING CODE | EA PER BOX | INNER BOX SIZE (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|------------|---------------------|------------------|---------------|------------------|
| DO-15   | -B           | 500        | 194*84*21           | 415*220*255      | 25,000        | 12.74            |

### 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) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| DO-15   | -T           | 4,000       | 4,000            | 5.0                  | 52              | 330           | 355*350*335      | 16,000        | 10.05            |

### AMMO PACK

| PACKAGE | PACKING CODE | REEL ( EA ) | COMPONENT SPACE(mm) | TAPE SPACE (mm) | BOX SIZE (mm) | CARTON SIZE(mm) | CARTON ( EA ) | GROSS WEIGHT (Kg) |
|---------|--------------|-------------|---------------------|-----------------|---------------|-----------------|---------------|-------------------|
| DO-15   | -F           | 1,500       | 5.0                 | 52              | 255*73*100    | 400*268*225     | 15,000        | 8.8               |



## Attachment information about RL20X

### 1. Internal Circuit



### 2. Marking on the body

