



THE DATASHEET OF RL255



SILICON RECTIFIER

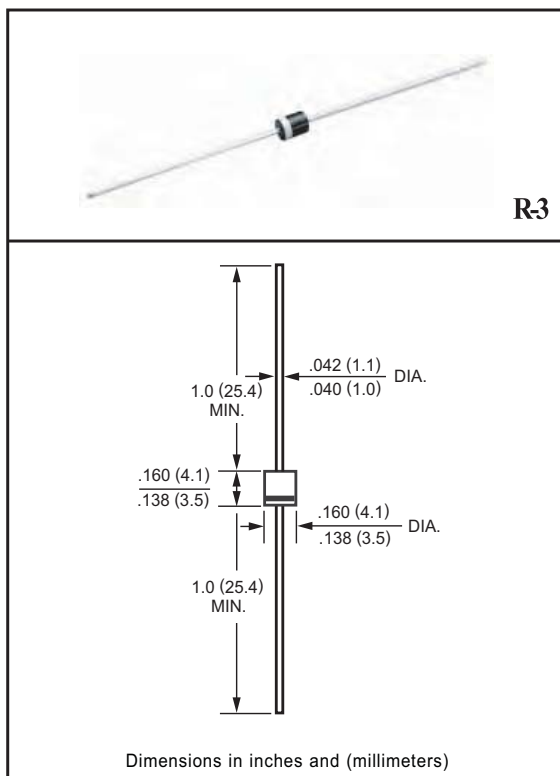
VOLTAGE RANGE 1000 Volts CURRENT 2.5 Amperes

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: 0.54 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 | RL251 | RL252 | RL253 | RL254 | RL255 | RL256 | RL257 | UNITS |
|--|------------------|-------|-------|-------|--------------|-------|-------|-------|---------------------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | | | | 1000 | | | | Volts |
| Maximum RMS Voltage | VRMS | | | | 700 | | | | Volts |
| Maximum DC Blocking Voltage | VDC | | | | 1000 | | | | Volts |
| Maximum Average Forward Rectified Current at TA = 75°C | Io | | | | 2.5 | | | | Amps |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM | | | | 150 | | | | Amps |
| Typical Current Squarad Time | I ² t | | | | 93.37 | | | | A ² /Sec |
| Typical Junction Capacitance (Note) | CJ | | | | 35 | | | | pF |
| Typical Thermal Resistance | RθJA | | | | 35 | | | | °C/W |
| Operating and Storage Temperature Range | TJ, TSTG | | | | -55 to + 150 | | | | °C |

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

| CHARACTERISTICS | SYMBOL | RL251 | RL252 | RL253 | RL254 | RL255 | RL256 | RL257 | UNITS |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Instantaneous Forward Voltage at 2.5A DC | VF | | | | 1.0 | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | @TA = 25°C | | | | 1.0 | | | | uAmps |
| | @TA = 150°C | | | | 2.0 | | | | mAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 75°C | IR | | | | 30 | | | | uAmps |

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

RATING AND CHARACTERISTIC CURVES (RL251 THRU RL257)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

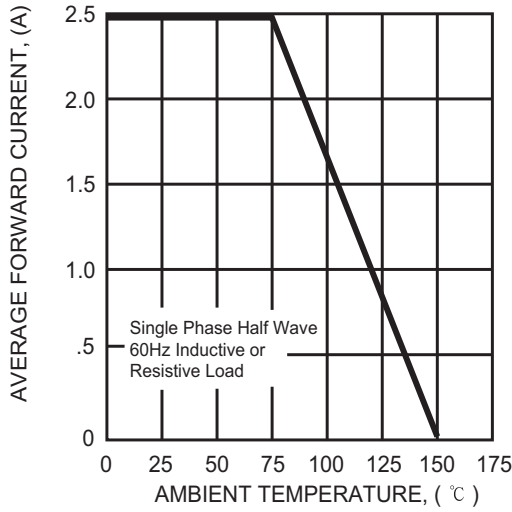


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

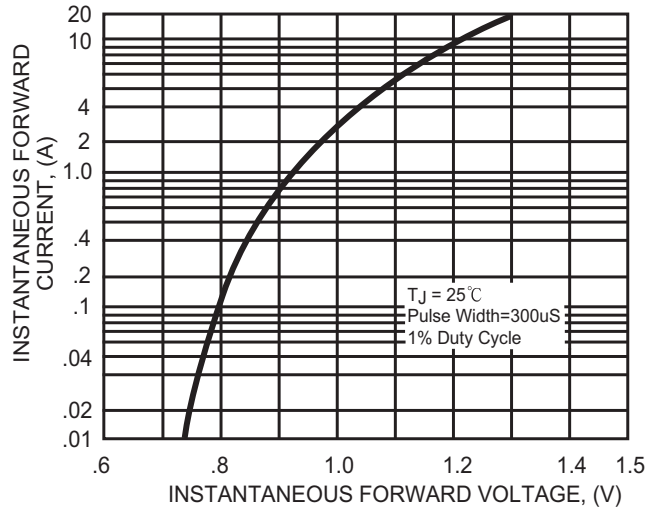


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

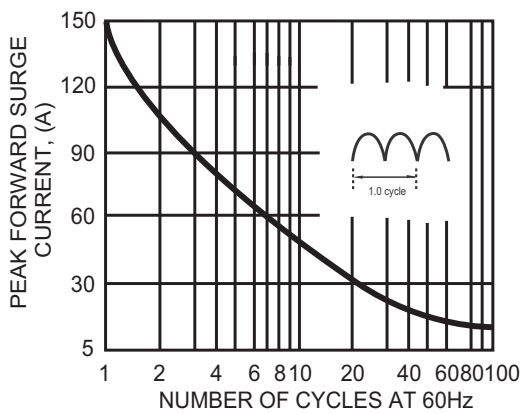


FIG. 4 - MAXIMUM REVERSE CHARACTERISTICS

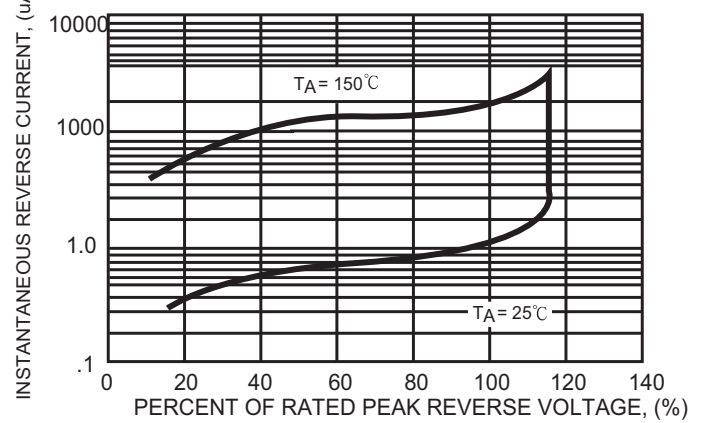
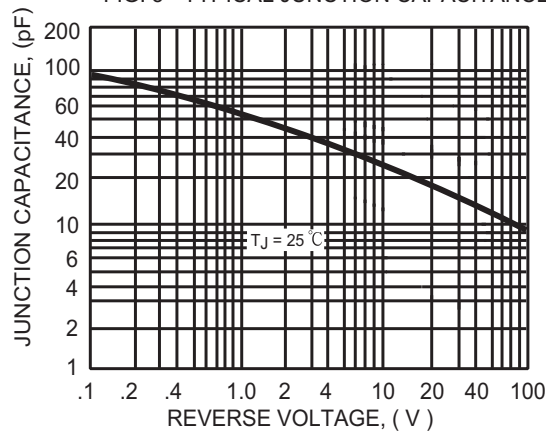


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

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

| COMPONENT OUTLINE | COMPONENT PITCH A | INNER TAPE PITCH B | | CUMULATIVE PITCH 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 |

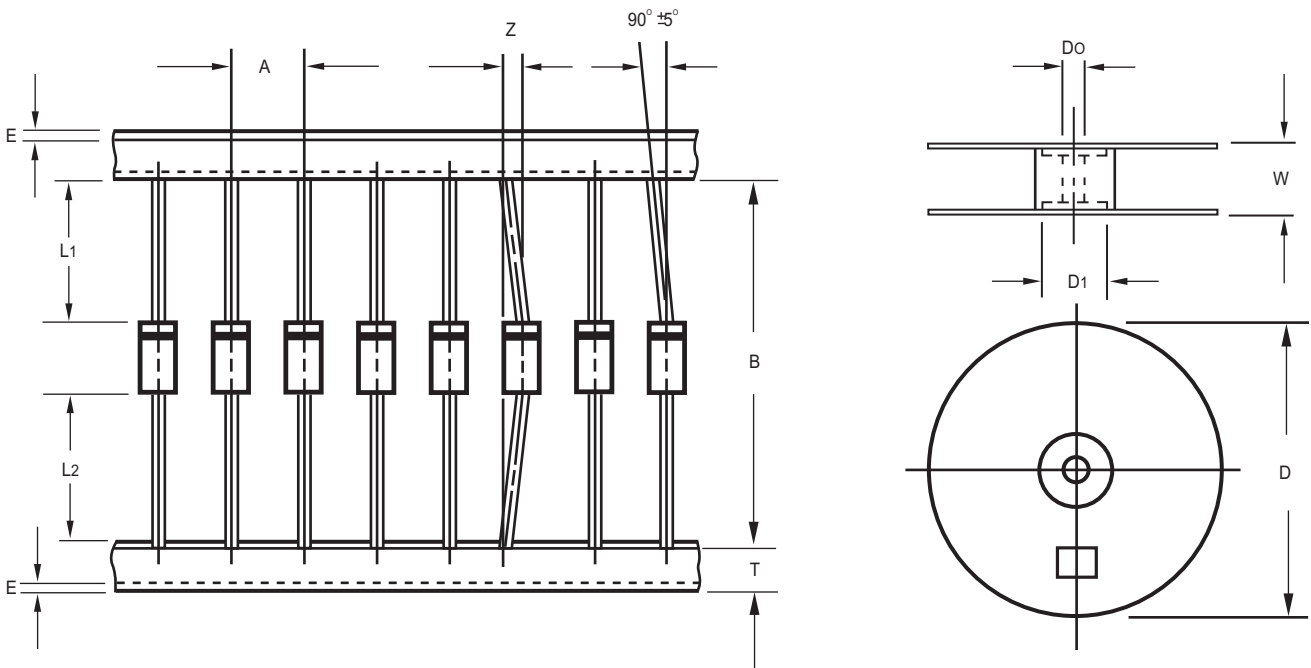


Fig.: Configuration of AXIAL LEAD TAPING

| ITEM | SYMBOL | SPECIFICATIONS (mm) | SPECIFICATIONS (inch) |
|-----------------------|-----------|---------------------|-----------------------|
| Component alignment | Z | 1.2 Max. | 0.047 Max. |
| Tape width | T | 6.0 ± 0.4 | 0.236 ± 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 ± 0.3 | 3.374 ± 0.012 |
| Feed hole diameter | Do | 30.5 ± 0.4 | 1.201 ± 0.016 |
| Reel width | W | 79.0 ± 1.0 | 3.110 ± 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) |
|---------|--------------|------------|---------------------|------------------|---------------|------------------|
| R-3 | -B | 500 | 192*75*21 | 415*220*255 | 25,000 | 16.17 |

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-3 | -T | 3,000 | 3,000 | 5.0 | 52 | 330 | 355*350*335 | 12,000 | 10.60 |

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-3 | -F | 1,500 | 5.0 | 52 | 255*73*100 | 400*268*225 | 15,000 | 11.2 |

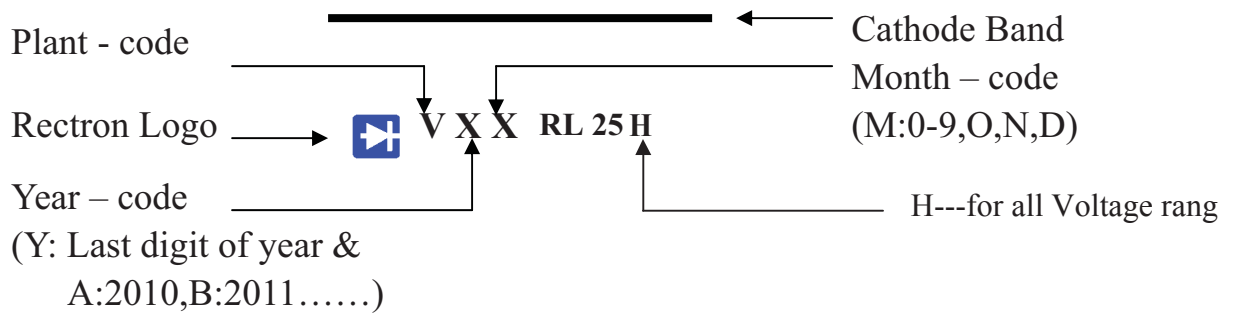


Attachment information about RL25X

1. Internal Circuit



2. Marking on the body





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