RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

# RL151 THRU RL157

## SILICON RECTIFIER

### VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.5 Ampere

### 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

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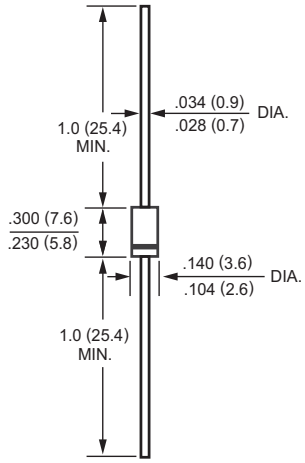


Dimensions in inches and (millimeters)

### 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 $T_A$ = 25°C unless otherwise noted)

| RATINGS | SYMBOL | RL151 | RL152 | RL153 | RL154 | RL155 | RL156 | RL157 | UNITS |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current at $T_A$ = 75°C | $I_O$ | 1.5 | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 60 | | | | | | | Amps |
| Typical Current Squarad Time | $I^2t$ | 14.94 | | | | | | | $A^2$/Sec |
| Typical Junction Capacitance (Note) | $C_J$ | 20 | | | | | | | pF |
| Typical Thermal Resistance | $R_{\theta JA}$ | 50 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to + 150 | | | | | | | °C |

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

| CHARACTERISTICS | | SYMBOL | RL151 | RL152 | RL153 | RL154 | RL155 | RL156 | RL157 | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage at 1.5A DC | | $V_F$ | 1.0 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | @$T_A$ = 25°C | $I_R$ | 1.0 | | | | | | | uAmps |
| | @$T_A$ = 150°C | | 2.0 | | | | | | | mAmps |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at $T_L$ = 75°C | | | 30 | | | | | | | uAmps |

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

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# RATING AND CHARACTERISTIC CURVES ( RL151 THRU RL157 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

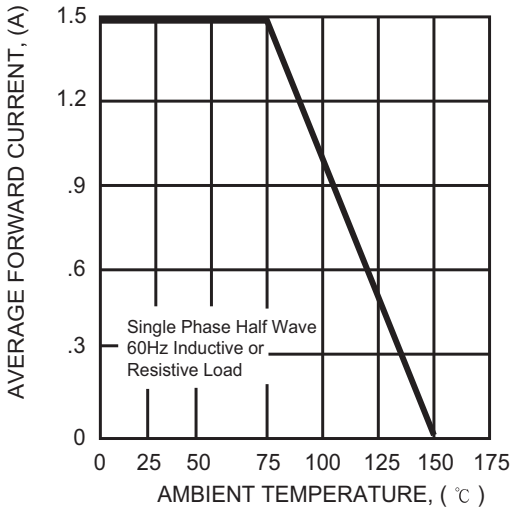



FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

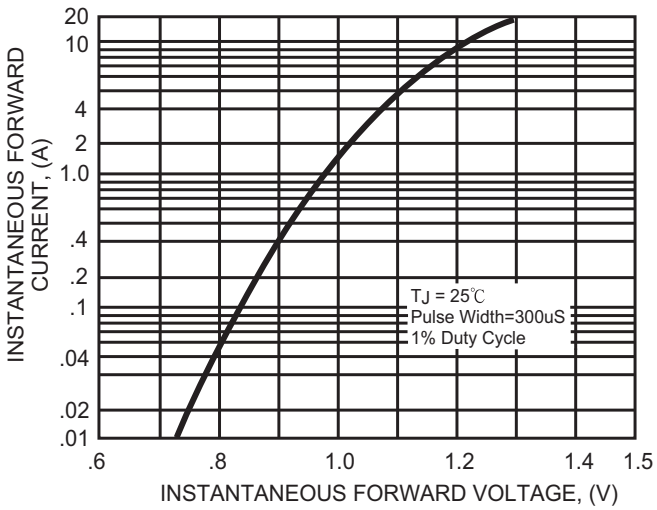



FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

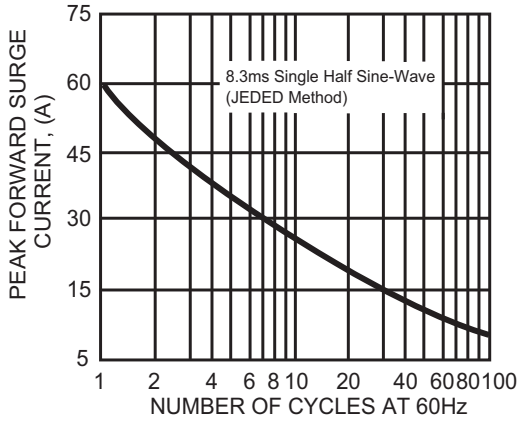



FIG. 4 - MAXIMUM REVERSE CHARACTERISTICS

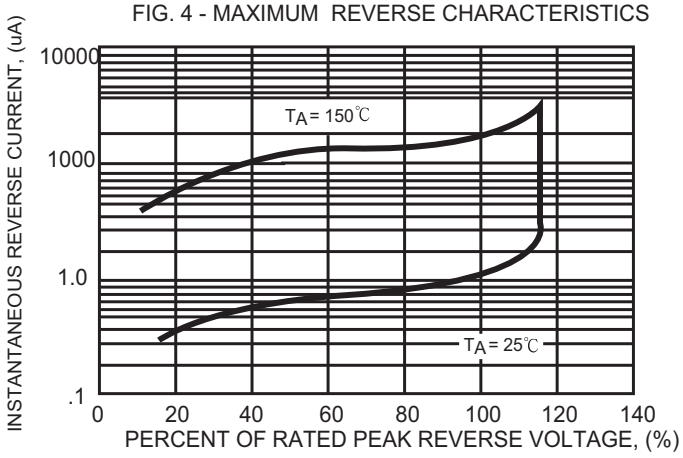
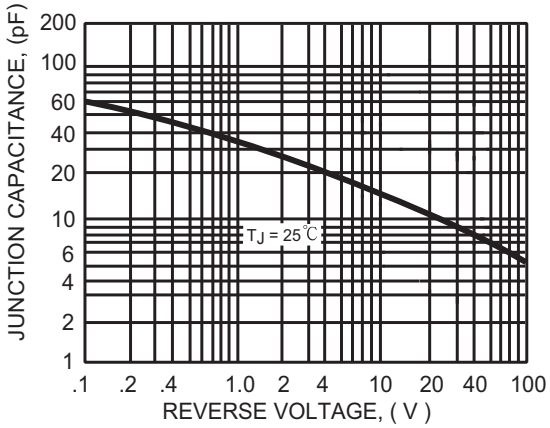



FIG. 5 - TYPICAL JUNCTION CAPACITANCE



# AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

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

| COMPNENT OUTLINE | COMPONENT PITCH A | INNER TAPE PITCH B | | CUMULATIVE PITCH TOLERANCE |
|---|---|---|---|---|
| | ±0.5mm (.020") | ±0.5mm (.020") | ±1.5mm (.059") | |
| T-1 | 5.0mm | 26.0mm | | 2.0mm/20pitch |
| R-1 | 5.0mm | 26.0mm | | 2.0mm/20pitch |
| R-1 | 5.0mm | | 52.4mm | 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 |
| 1.5KE | 10.0mm | | 52.4mm | 2.0mm/10pitch |

Note: -E for 26mm inner tape pitch
-F & -T for 52mm inner tape pitch

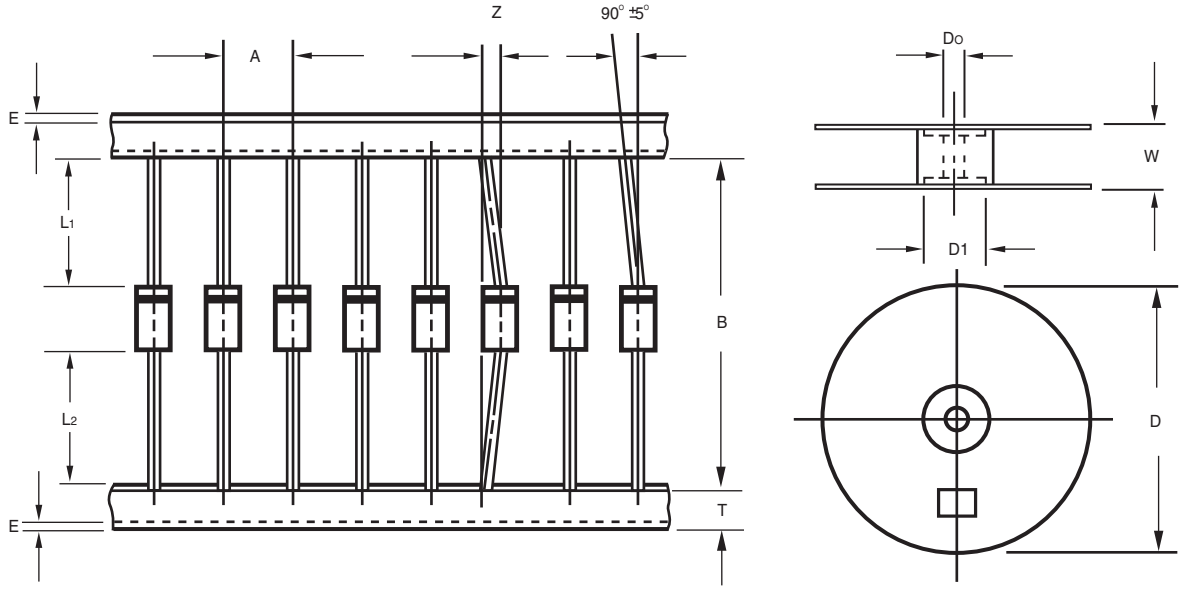



Fig.: Configuration of AXIAL LEAD TAPING

| ITEM | SYMBOL | SPECIFICATIONS (mm) | SPECIFICATIONS (inch) |
|---|---|---|---|
| Component alignment | Z | 1.2 Max. | 0.048 Max. |
| Tape width | T | 6.0± 0.4 | 0.236± 0.016 |
| Exposed adhesive | E | 0.8 Max. | 0.032 Max. |
| Body eccentricity | IL1-L2I | 1.0 Max. | 0.040 Max. |
| Reel outside diameter | D | 330.0 | 13.0 |
| Reel inner diameter | D1 | 85.7± 0.3 | 3.375± 0.012 |
| Feed hole diameter | Do | 30.5± 0.4 | 1.201± 0.016 |
| Reel width | W | 79.0± 1.0 | 3.110± 0.040 |

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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±1.0mm (1.97" ± 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

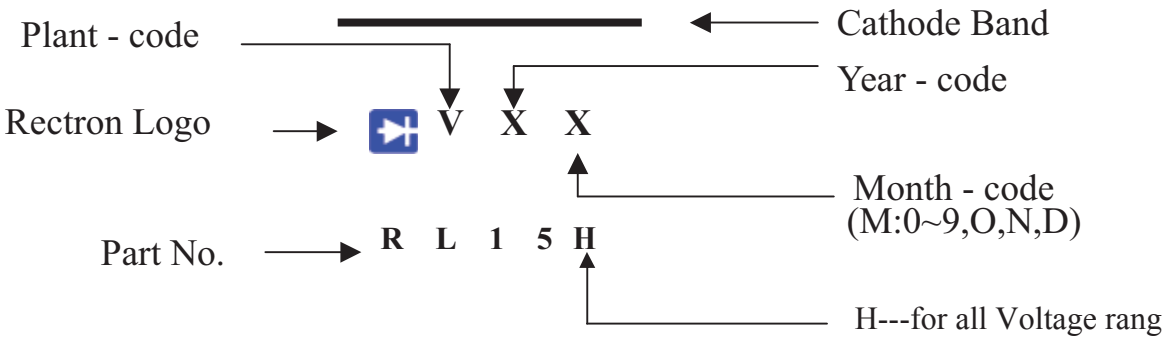
| PACKAGE | PACKING CODE | REEL ( EA ) | COMPONENT SPACE(mm) | TAPE SPACE (mm) | BOX SIZE (mm) | CARTON SIZE(mm) | CARTON ( EA ) | GROSS WEIGHT (Kg) |
|---|---|---|---|---|---|---|---|---|
| DO-15 | -F | 1,500 | 5.0 | 52 | 255*73*100 | 400*268*225 | 15,000 | 8.8 |

# RECTRON

## Attachment information about RL15X

### 1. Internal Circuit


### 2. Marking on the body




### 3. The net weight 380mg / pcs

### 4. Taping packaging specification

**4.1 All polarized components must be oriented in one direction.**

**4.2 For diode, at least one side of the cathode lead tape should be red, and anode lead tape should be white.**

**4.3 A minimum 300 mm (12”) leader shall be provided at each end of the reel.**

**4.4 Staples shall not be used for splicing. Splice length shall be 4.0 inches minimum and shall not be misaligned more than 0.8mm.**

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# Attachment information about RL15X

## 5. Items marked on the reel box and carton

### 5.1 On the reel (for –T)

CUSTOMER
TYPE
QUANTITY
LOT NO.
Q.A.
REMARK

### 5.2 On the box (for –E & -F)

TYPE
QUANTITY
LOT NO.
Q.A.

### 5.3 On the carton

CUSTOMER
TYPE
QUANTITY
LOT NO.
REMARK

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