

**SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 100 Volts CURRENT 1.5 Amperes**

**FEATURES**

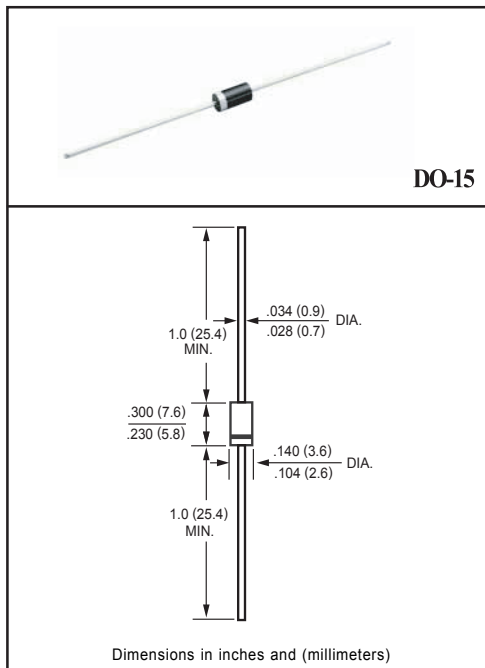
- \* Low cost
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* 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           | 1N5391       | 1N5392 | 1N5393 | 1N5394 | 1N5395 | 1N5396 | 1N5397 | 1N5398 | 1N5399 | UNITS            |
|--|------------------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| Maximum Recurrent Peak Reverse Voltage   | VRRM             | 50           | 100    | 200    | 300    | 400    | 500    | 600    | 800    | 1000   | Volts            |
| Maximum RMS Voltage  | VRMS             | 35           | 70     | 140    | 210    | 280    | 350    | 420    | 560    | 700    | Volts            |
| Maximum DC Blocking Voltage  | Vdc              | 50           | 100    | 200    | 300    | 400    | 500    | 600    | 800    | 1000   | Volts            |
| Maximum Average Forward Rectified Current<br>.375" (9.5mm) lead length at TL = 70°C                  | Io               | 1.5          |        |        |        |        |        |        |        |        | Amps             |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM             | 50           |        |        |        |        |        |        |        |        | Amps             |
| Typical Current Squared Time   | I <sup>2</sup> T | 10.37        |        |        |        |        |        |        |        |        | A <sup>2</sup> S |
| Typical Junction Capacitance (Note)  | CJ               | 20           |        |        |        |        |        |        |        |        | pF               |
| Typical Thermal Resistance   | R θ JA           | 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        | 1N5391 | 1N5392 | 1N5393 | 1N5394 | 1N5395 | 1N5396 | 1N5397 | 1N5398 | 1N5399 | UNITS |
|---|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 1.5A DC  | VF            | 1.1    |        |        |        |        |        |        |        |        | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage                                      | @ TA = 25°C   | 5.0    |        |        |        |        |        |        |        |        | uAmps |
|   | @ TA = 150 °C | 5.0    |        |        |        |        |        |        |        |        | mAmps |
| Maximum Full Load Reverse Current Average, Full Cycle<br>.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

# RATING AND CHARACTERISTIC CURVES( 1N5391 THRU 1N5399 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

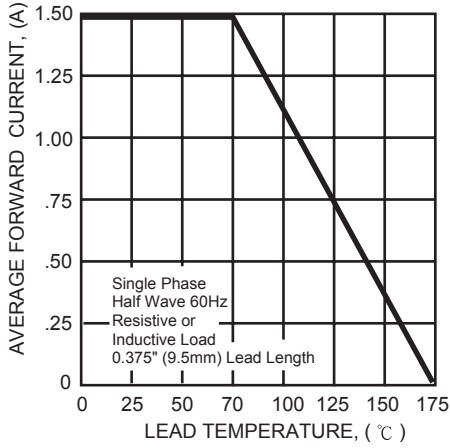


FIG. 2 - MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

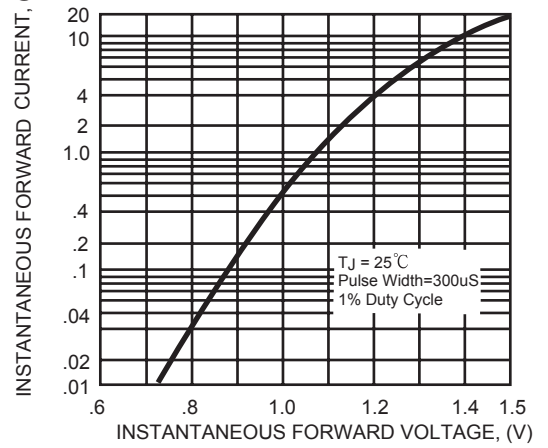


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

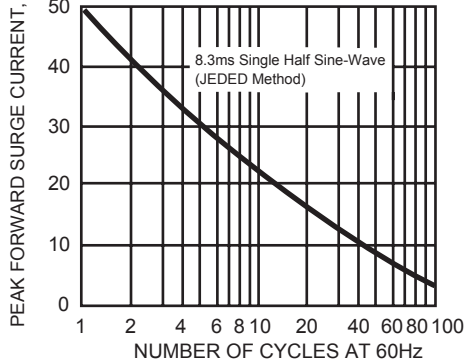


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

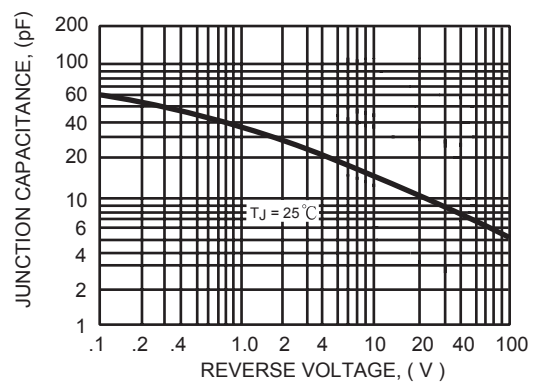
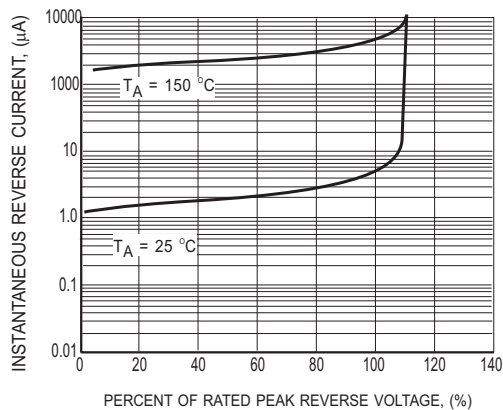


FIG.5 MAXIMUM REVERSE CHARACTERISTICS



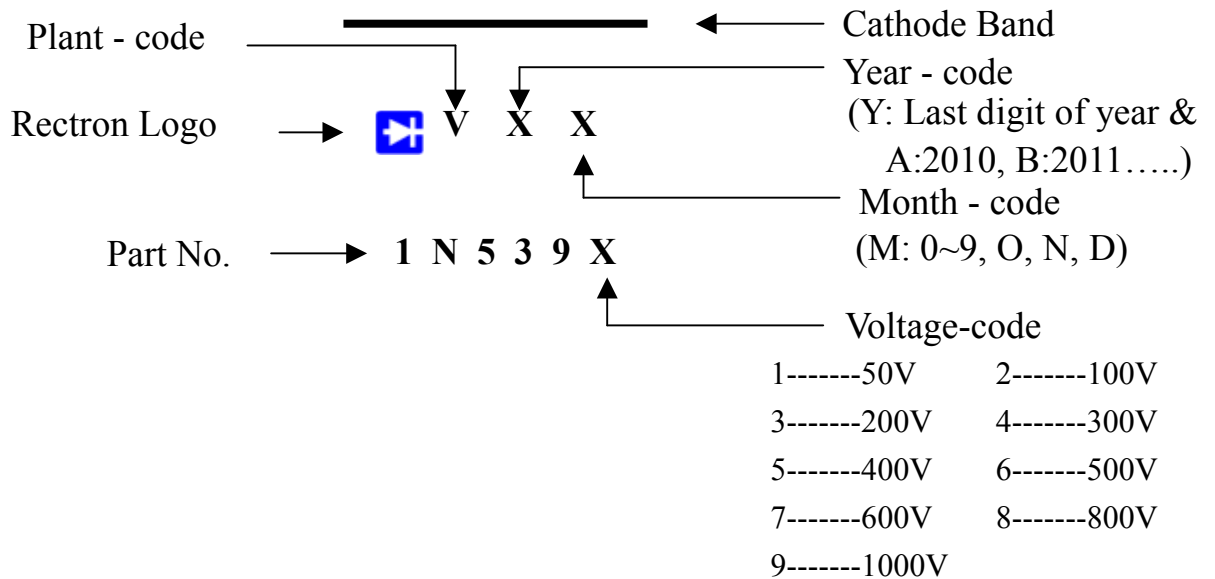


## Attachment information about 1N539X

### 1. Internal Circuit



### 2. Marking on the body



## 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               |