

# **SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 2.5 Amperes**

## **FEATURES**

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

## **MECHANICAL DATA**

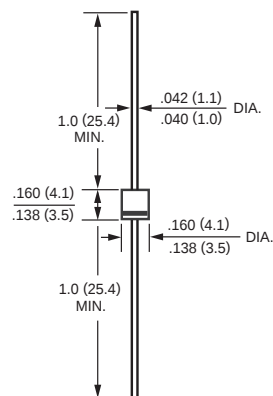
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.54 gram

## **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%.



**R-3**



Dimensions in inches and (millimeters)

## **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     | 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       | 2.5          |       |       |       |       |       |       | Amps  |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 150          |       |       |       |       |       |       | Amps  |
| 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                                                                   | IR     | 5.0   |       |       |       |       |       |       | uAmps |
| at Rated DC Blocking Voltage                                                                 |        |       |       |       |       |       |       |       |       |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 75°C |        | 30    |       |       |       |       |       |       | uAmps |

NOTES : 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

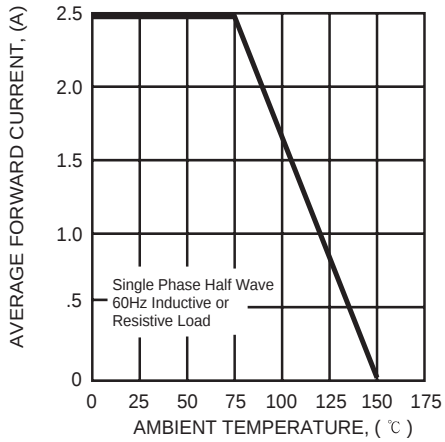


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

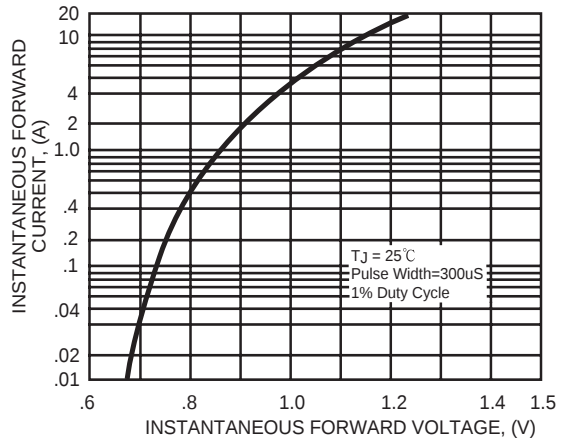


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

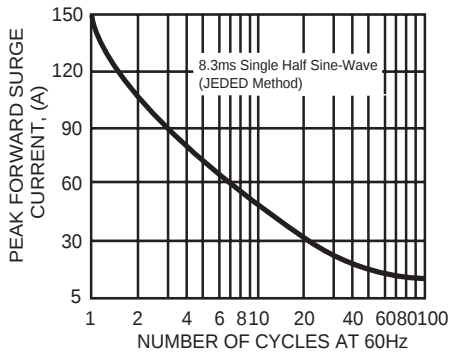


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

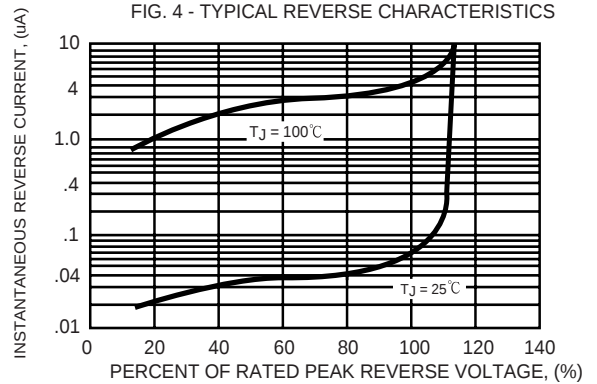


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

