



**DC COMPONENTS CO., LTD.**

**RECTIFIER SPECIALISTS**

1N  
4001A / RL101  
THRU  
1N  
4007A / RL107

**TECHNICAL SPECIFICATIONS OF GENERAL PURPOSE SILICON RECTIFIER**

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 1.0 Ampere**

**FEATURES**

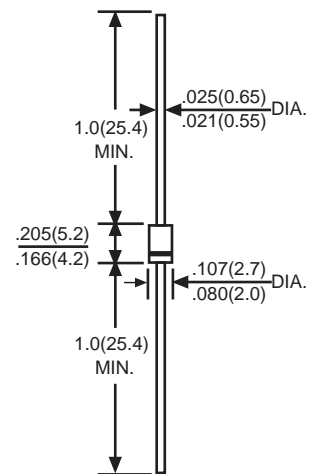
- \* Low cost
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High reliability

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rated flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.33 gram approx.



A-405



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

|  | SYMBOL                            | 1N4001A     | 1N4002A | 1N4003A | 1N4004A | 1N4005A | 1N4006A | 1N4007A | UNITS |
|--|-----------------------------------|-------------|---------|---------|---------|---------|---------|---------|-------|
|  |                                   | RL101       | RL102   | RL103   | RL104   | RL105   | RL106   | RL107   |       |
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>                  | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | Volts |
| Maximum RMS Voltage  | V <sub>RMS</sub>                  | 35          | 70      | 140     | 280     | 420     | 560     | 700     | Volts |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                   | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | Volts |
| Maximum Average Forward Rectified Current<br>375"(9.5mm) lead length at T <sub>A</sub> = 55°C              | I <sub>O</sub>                    | 1.0         |         |         |         |         |         |         | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC Method)       | I <sub>FSM</sub>                  | 30          |         |         |         |         |         |         | Amps  |
| Maximum Instantaneous Forward Voltage at 1.0A DC   | V <sub>F</sub>                    | 1.1         |         |         |         |         |         |         | Volts |
| Maximum DC Reverse Current at Rated<br>DC Blocking Voltage   | @ T <sub>A</sub> =25°C            | 5.0         |         |         |         |         |         |         | μAmps |
|  | @ T <sub>A</sub> =100°C           | 50          |         |         |         |         |         |         |       |
| Maximum Full Load Reverse Current Average, Full<br>Cycle .375"(9.5mm) lead length at T <sub>L</sub> = 55°C |                                   | 30          |         |         |         |         |         |         |       |
| Typical Junction Capacitance (Note 1)  | C <sub>J</sub>                    | 15          |         |         |         |         |         |         | pF    |
| Typical Thermal Resistance (Note 2)  | R <sub>θJA</sub>                  | 50          |         |         |         |         |         |         | °C/W  |
| Operating and Storage Temperature Range  | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 |         |         |         |         |         |         | °C    |

Note 1: Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
Note 2: Typical thermal resistance from junction to ambient.

# RATING AND CHARACTERISTIC CURVES ( 1N4001A THRU 1N4007A ) ( RL101 THRU RL107 )

FIG. 1  
TYPICAL FORWARD CURRENT  
DERATING CURVE

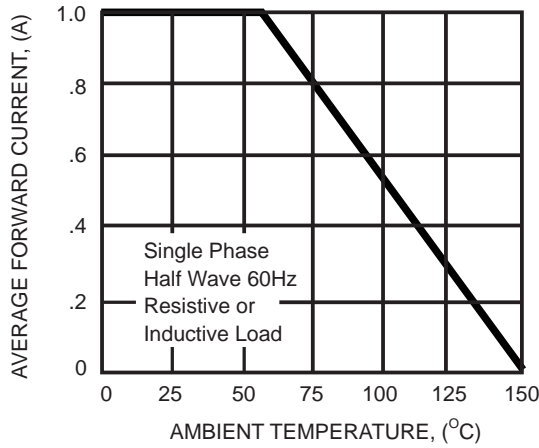


FIG. 2  
MAXIMUM NON-REPETITIVE FORWARD  
SURGE CURRENT

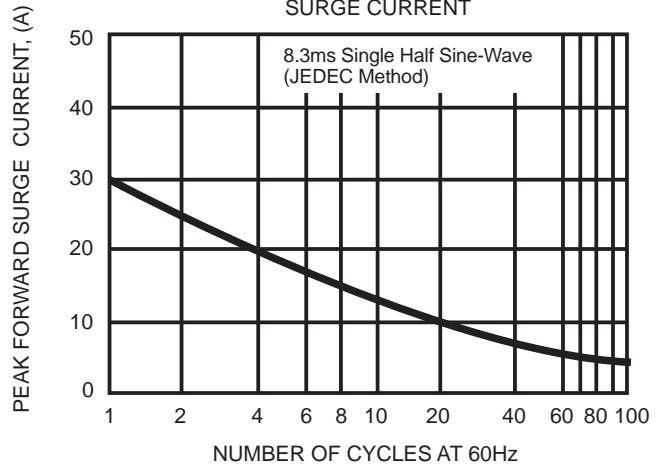


FIG. 3  
TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS

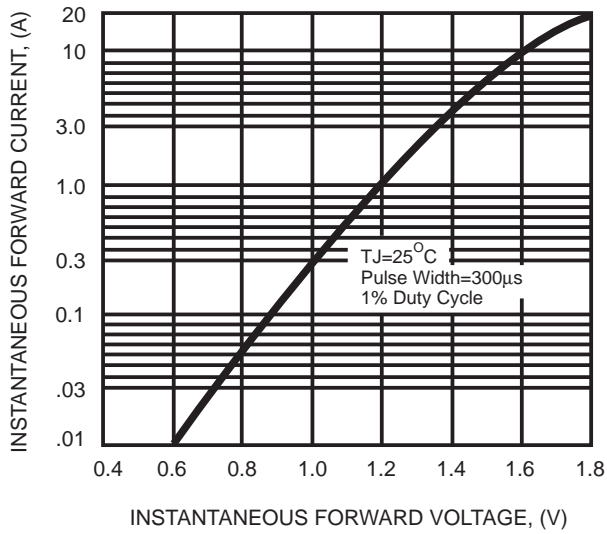


FIG. 4  
TYPICAL REVERSE CHARACTERISTICS

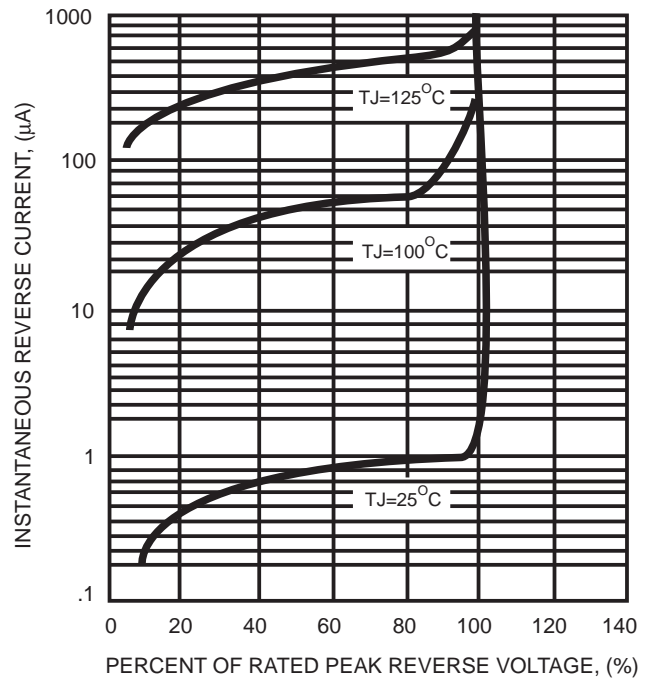
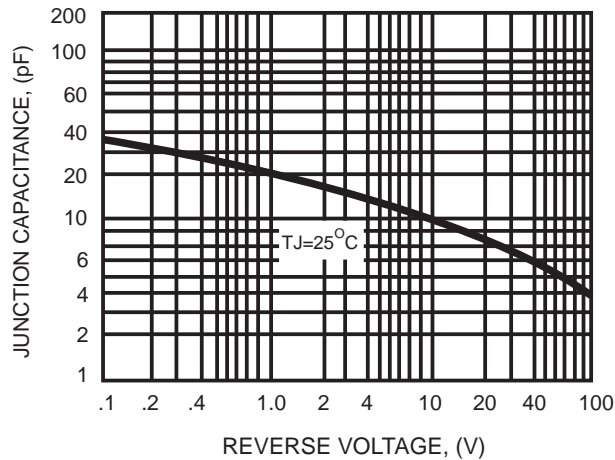


FIG. 5  
TYPICAL JUNCTION CAPACITANCE



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