

## SILICON RECTIFIER

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

### FEATURES

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

### MECHANICAL DATA

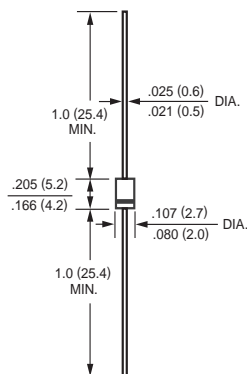
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.20 gram

### 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%.



A-405



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	RL1N4001	RL1N4002	RL1N4003	RL1N4004	RL1N4005	RL1N4006	RL1N4007	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 = 55°C	IO	1.0							Amps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	30							Amps
Typical Junction Capacitance (Note)	CJ	15							pF
Typical Thermal Resistance	RθJA	50							°C/W
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150							°C

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

CHARACTERISTICS		SYMBOL	RL1N4001	RL1N4002	RL1N4003	RL1N4004	RL1N4005	RL1N4006	RL1N4007	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V <sub>F</sub>	1.1							Volts
Maximum DC Reverse Current	@ T <sub>A</sub> = 25°C	I <sub>R</sub>	5.0							uAmps
at Rated DC Blocking Voltage	@ T <sub>A</sub> = 100°C		50							
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T <sub>L</sub> = 75°C				30						

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

# RATING AND CHARACTERISTIC CURVES ( RL1N4001 THRU RL1N4007 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

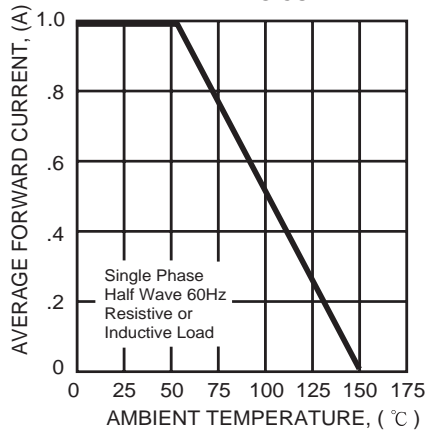


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

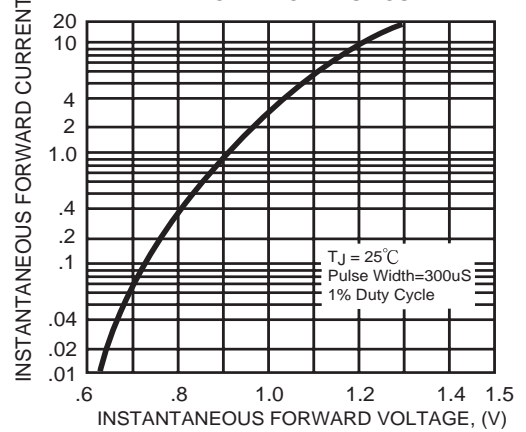


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

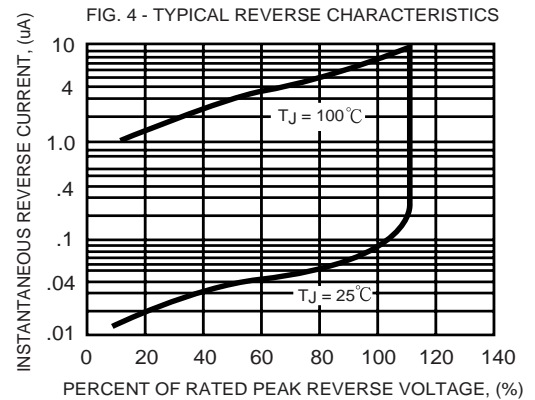
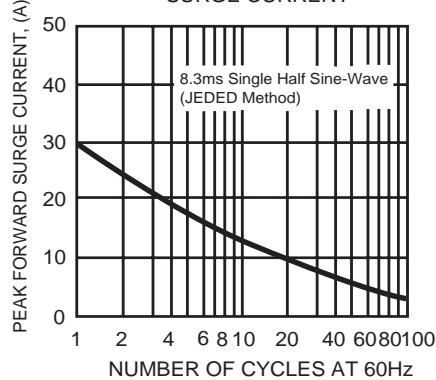


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

