

**SILICON RECTIFIER**

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

**FEATURES**

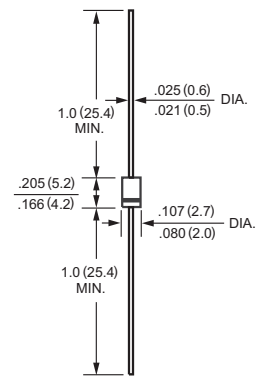
- \* High reliability
- \* Low leakage current
- \* Low forward voltage drop
- \* High current capability

**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



**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, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

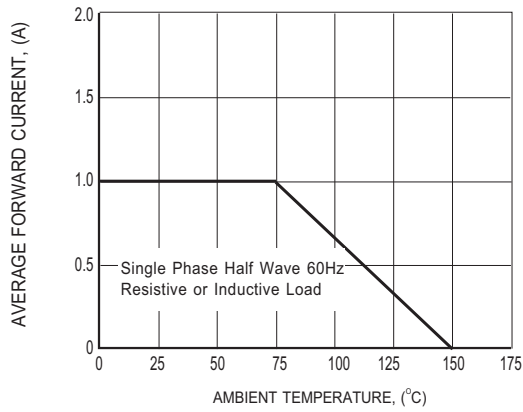
RATINGS	SYMBOL	RL1N4001	RL1N4002	RL1N4003	RL1N4004	RL1N4005	RL1N4006	RL1N4007	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at TA=55°C	I <sub>O</sub>					1.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>					30				Amps
Typical Current Squared Time	I <sup>2</sup> t					3.74				A <sup>2</sup> /Sec
Typical Thermal Resistance	R <sub>θJA</sub>					50				°C/W
Typical Junction Capacitance (Note 1)	C <sub>J</sub>					15				pF
Operating and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>					-55 to + 150				°C

**ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)**

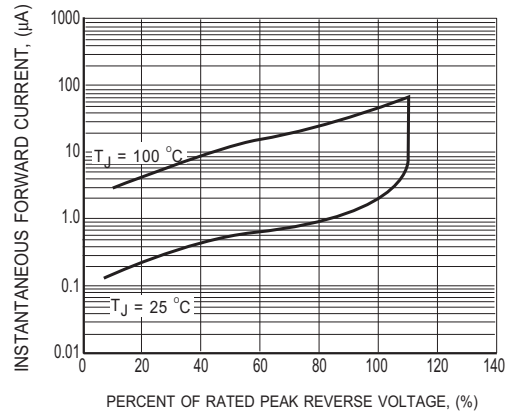
CHARACTERISTICS	SYMBOL	RL1N4001	RL1N4002	RL1N4003	RL1N4004	RL1N4005	RL1N4006	RL1N4007	UNITS	
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>					1.0				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T <sub>A</sub> = 25 °C					1.0				μA
	@T <sub>A</sub> = 100 °C					50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

- NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
3. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

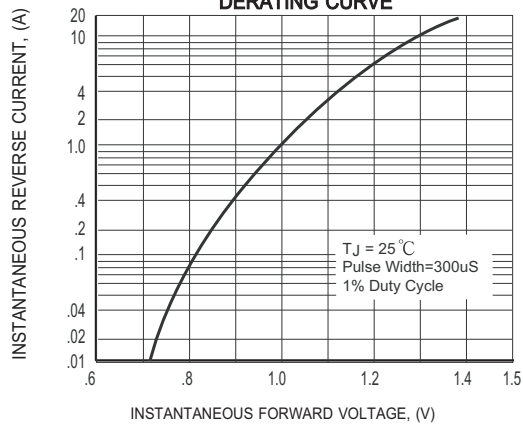
# RATING AND CHARACTERISTICS CURVES ( RL1N4001 THRU RL1N4007 )



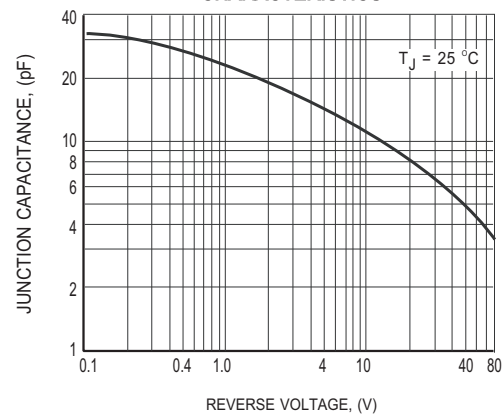
**FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE**



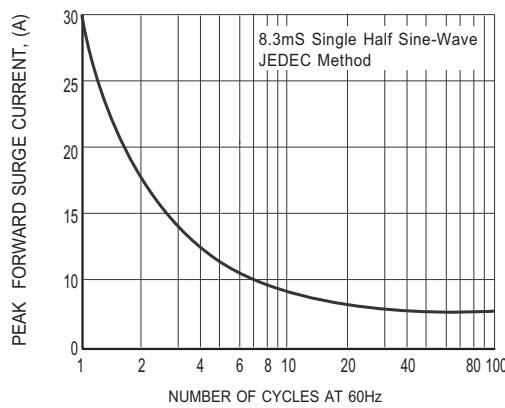
**FIG.2 TYPICAL REVERSE CHARACTERISTICS**



**FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

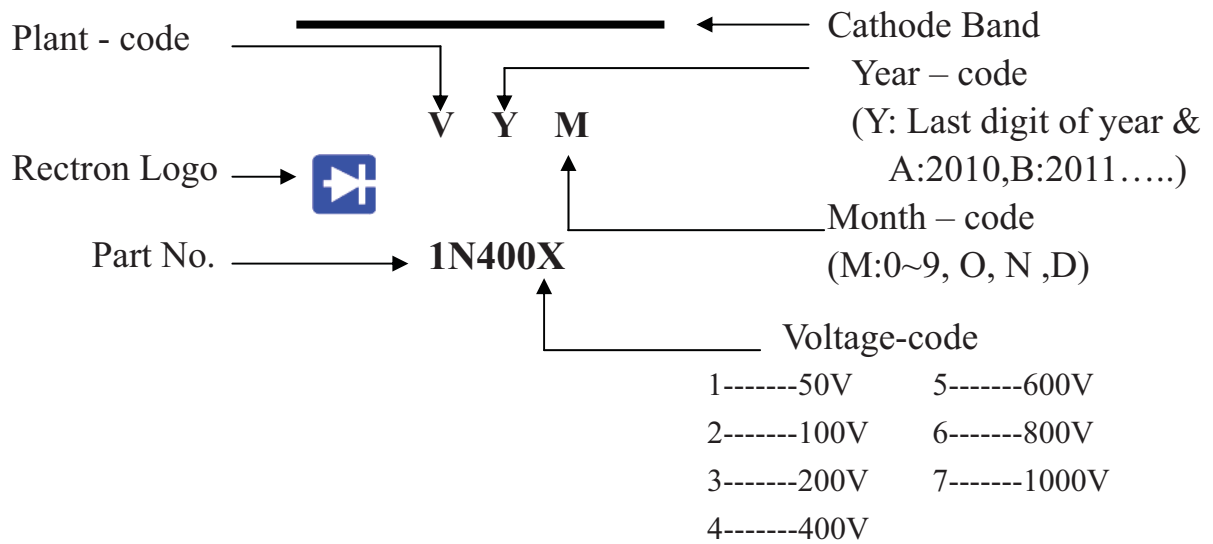


**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

## Mark Description



## 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)
A-405	-B	1,000	194*84*21	415*220*255	50,000	15.64

### 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-41	-T	5,000	5,000	5.0	52	330	355*350*335	20,000	8.13

### 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-41	-F	3,000	5.0	52	255*73*100	400*268*225	30,000	9.6
DO-41	-E	3,000	5.0	26	256*48*94	365*270*217	42,000	9.61
A-405	-N	2,000	12.7	---	325*170*40	355*350*335	28,000	11.41