

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

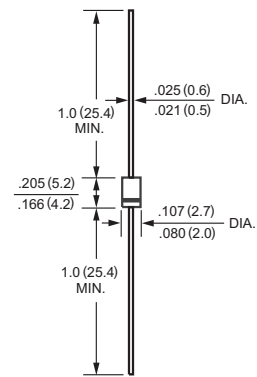
- * Case : Molded plastic
- * Epoxy : Device has UL flammability classification 94V-0
- * Lead : MIL-STD-202E method 208C guaranteed
- * Mounting position : Any
- * Weight : 0.20 gram

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 (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	RL1N4001	RL1N4002	RL1N4003	RL1N4004	RL1N4005	RL1N4006	RL1N4007	UNITS	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts	
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts	
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts	
Maximum Average Forward Rectified Current at TA=55°C	I_O					1.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}					30				Amps
Typical Current Squared Time	I^2t					3.74				A ² /Sec
Typical Thermal Resistance	$R_{\theta JA}$					50				°C/W
Typical Junction Capacitance (Note 1)	C_J					15				pF
Operating and Storage Temperature Range	T_J, T_{STG}					-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_F					1.0				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@TA = 25 °C					1.0				μA
	@TA = 100 °C					50				
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL=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)

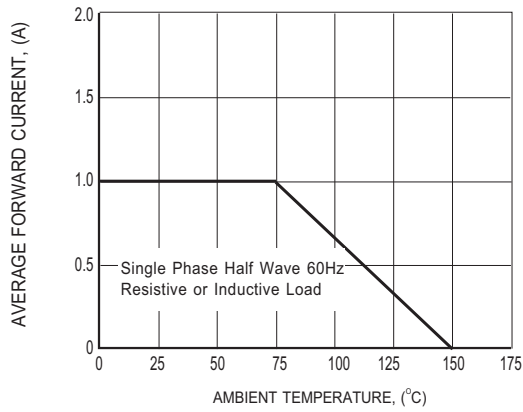


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

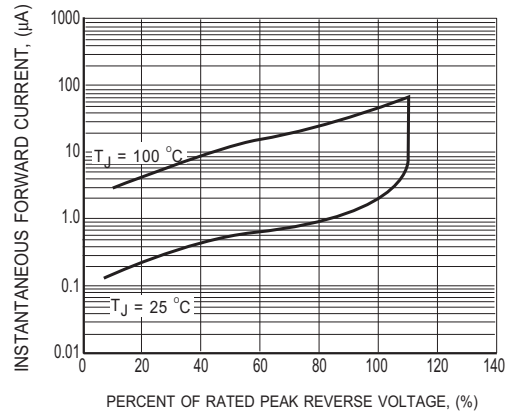


FIG.2 TYPICAL REVERSE CHARACTERISTICS

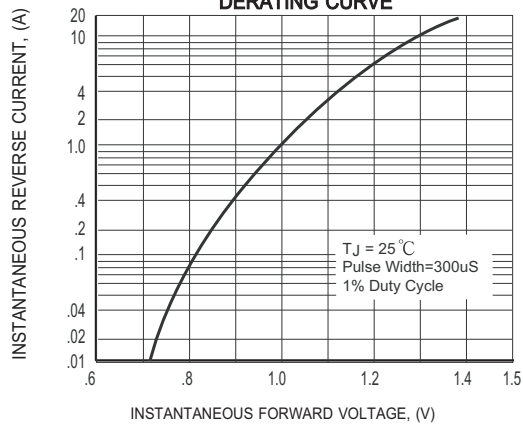


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

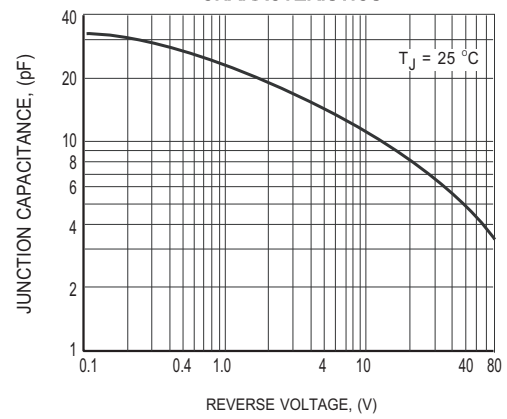


FIG.4 TYPICAL JUNCTION CAPACITANCE

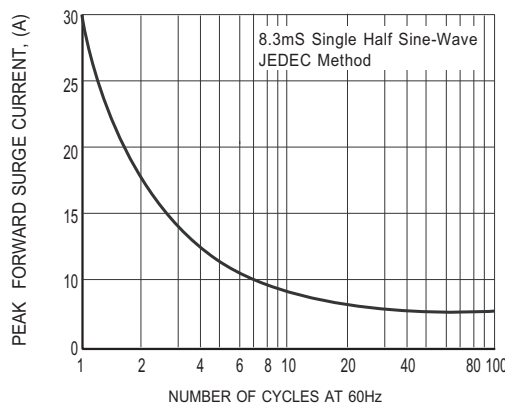
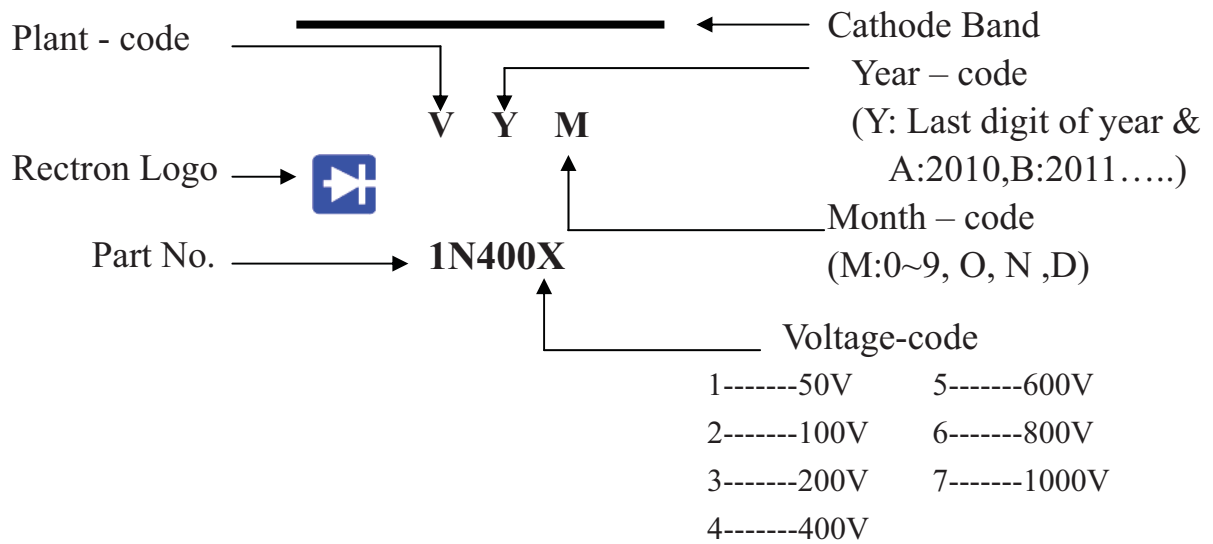


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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