

SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere

FEATURES

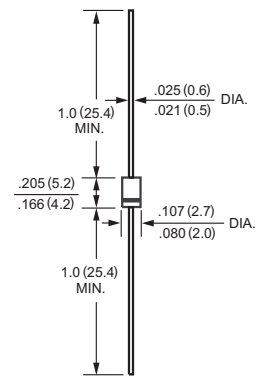
- * High reliability
- * Low leakage current
- * Low forward voltage drop
- * High current capability

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 _{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 ² t | | | | | 3.74 | | | | A ² /Sec |
| Typical Thermal Resistance | R _{θJA} | | | | | 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 | @T _A = 25 °C | | | | | 1.0 | | | | μA |
| | @T _A = 100 °C | | | | | 50 | | | | |
| Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T _L =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)

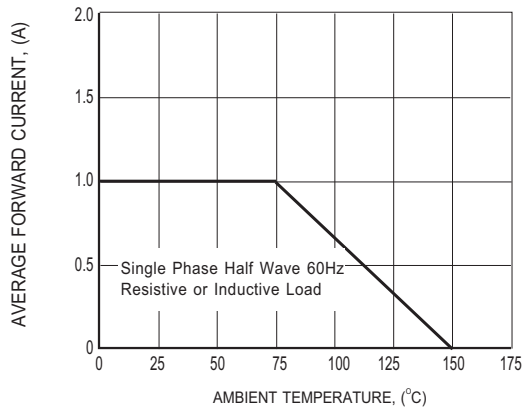


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

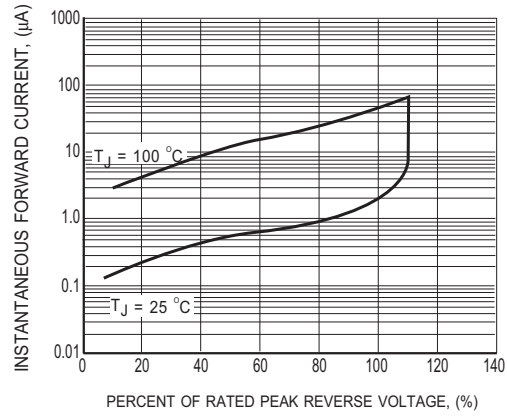


FIG.2 TYPICAL REVERSE CHARACTERISTICS

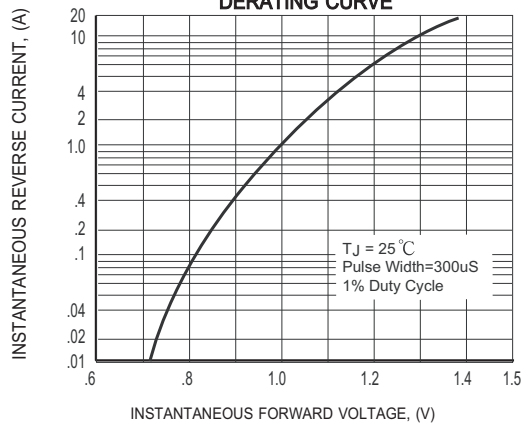


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

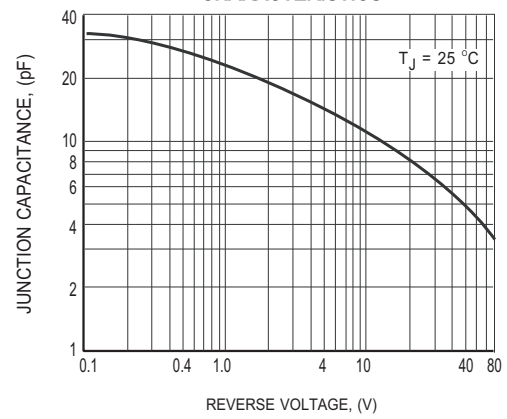


FIG.4 TYPICAL JUNCTION CAPACITANCE

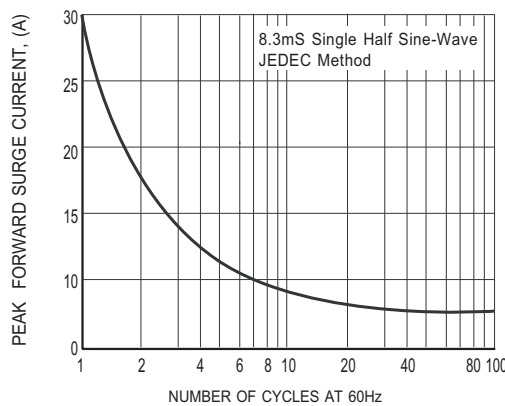
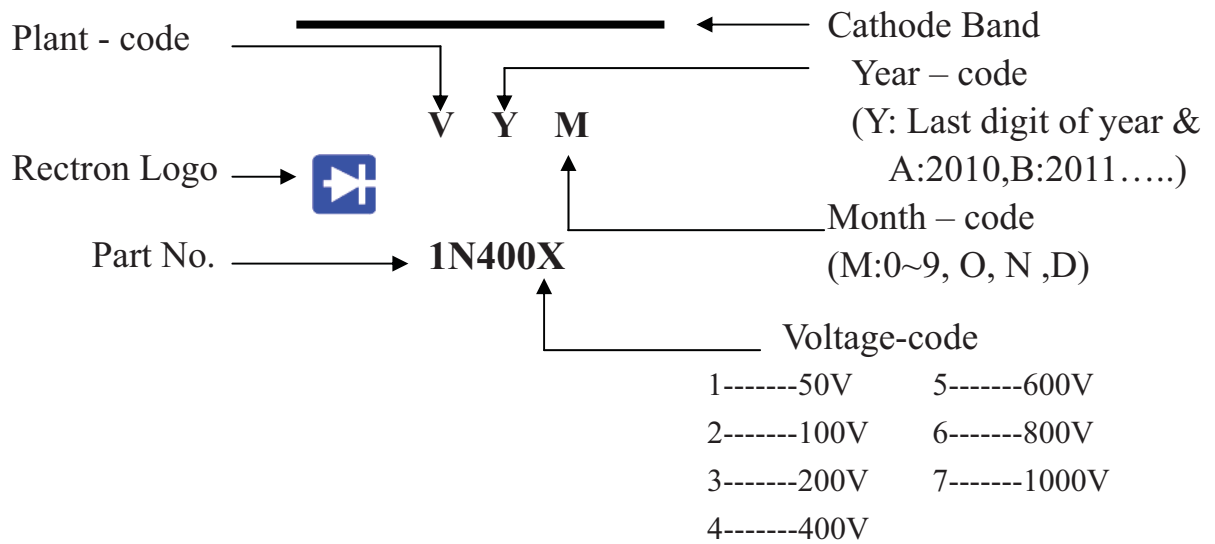


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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 |