

1N4001 THRU 1N4007

TECHNICAL SPECIFICATIONS OF SILICON RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

FEATURES

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

MECHANICAL DATA

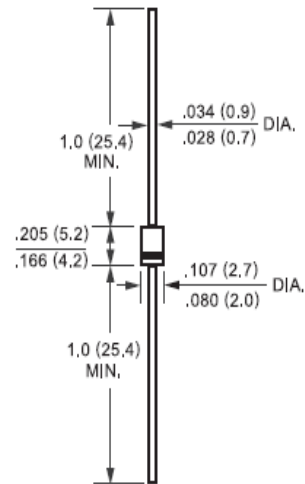
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 0.33 gram

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%.



DO-41



Dimensions in inches and (millimeters)

| | SYMBOL | 1N4001 | 1N4002 | 1N4003 | 1N4004 | 1N4005 | 1N4006 | 1N4007 | 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 T _A = 75°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 |
| Maximum Instantaneous Forward Voltage at 1.0A DC | V _F | 1.1 | | | | | | | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | @T _A = 25°C | 5.0 | | | | | | | uAmps |
| | @T _A = 100°C | 500 | | | | | | | |
| Maximum Full Load Reverse Current Average, Full Cycle .375*(9.5mm) lead length at T _L = 75°C | I _R | 30 | | | | | | | uAmps |
| Typical Junction Capacitance (Note) | C _J | 15 | | | | | | | pF |
| Typical Thermal Resistance | R _{θJA} | 50 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to + 175 | | | | | | | °C |

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

RATING AND CHARACTERISTIC CURVES (1N4001 THRU 1N4007)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

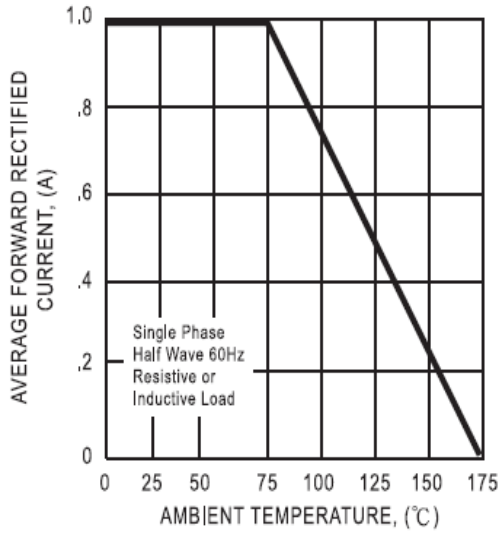


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

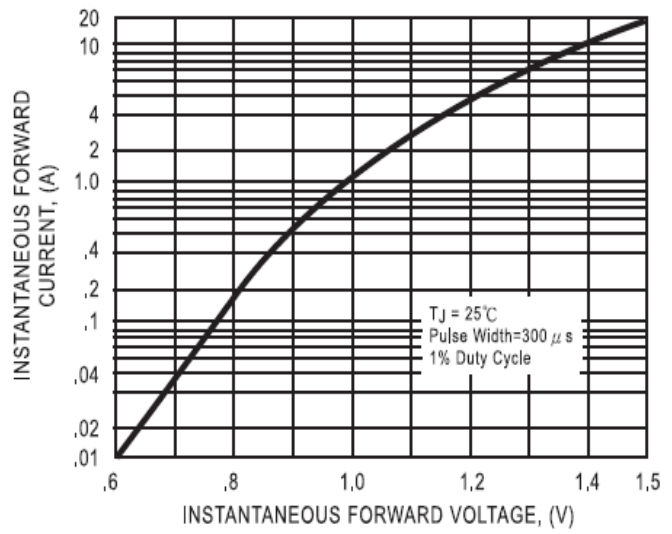


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

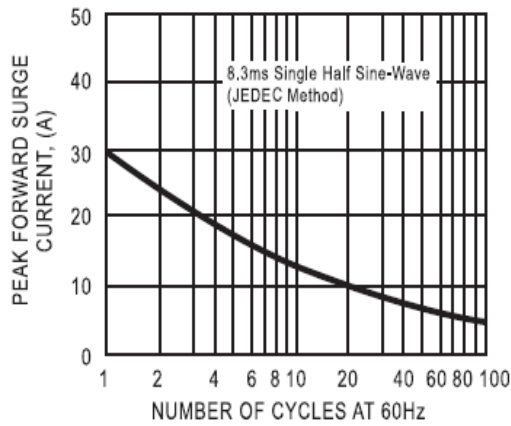


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

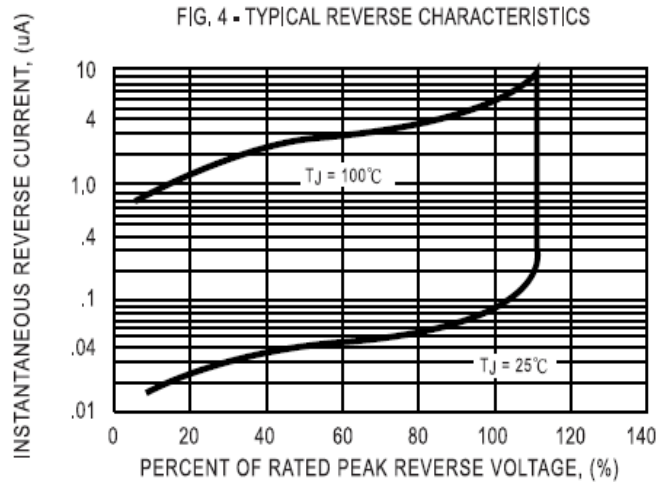


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

