

1N4001 - 1N4007

1.0 AMPS. Silicon Rectifiers

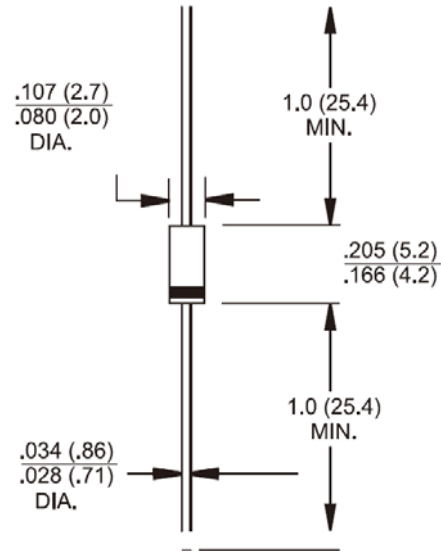
DO-41

Features

- ◇ High efficiency, Low VF
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability
- ◇ Low power loss
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ◇ Case: Molded plastic
- ◇ Epoxy: UL 94V-0 rate flame retardant
- ◇ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ◇ Polarity: Color band denotes cathode
- ◇ High temperature soldering guaranteed: 260°C/10s / .375", (9.5mm) lead lengths at 5 lbs, (2.3kg) tension
- ◇ Weight: 0.35 grams



Dimensions in inches and (millimeters)

Marking Diagram



- 1N400X = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

Maximum Ratings and Electrical Characteristics

Rating 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%

| Type Number | Symbol | 1N 4001 | 1N 4002 | 1N 4003 | 1N 4004 | 1N 4005 | 1N 4006 | 1N 4007 | Unit |
|---|---|---------------|---------|---------|---------|---------|---------|---------|------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @ $T_A=75^\circ C$ | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Rating for Fusing (t<8.3ms) | I^2T | 3.7 | | | | | | | A ² S |
| Maximum Instantaneous Forward Voltage (Note 1) @ 1 A | V_F | 1.0 | | | | | | | V |
| Maximum Reverse Current @ Rated VR $T_A=25^\circ C$ $T_A=125^\circ C$ | I_R | 5 50 | | | | | | | uA |
| Maximum Full load Reverse Current, Full cycle Average .375"(9.5mm) Lead Lenfth @ $T_A=75^\circ C$ | $I_{R(AV)}$ | 30 | | | | | | | uA |
| Typical Junction Capacitance (Note 2) | C_j | 10 | | | | | | | pF |
| Typical Thermal Resistance | $R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$ | 65 6 15 | | | | | | | °C/W |
| Operating Temperature Range | T_J | - 65 to + 150 | | | | | | | °C |
| Storage Temperature Range | T_{STG} | - 65 to + 150 | | | | | | | °C |

Note1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (1N4001 THRU 1N4007)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

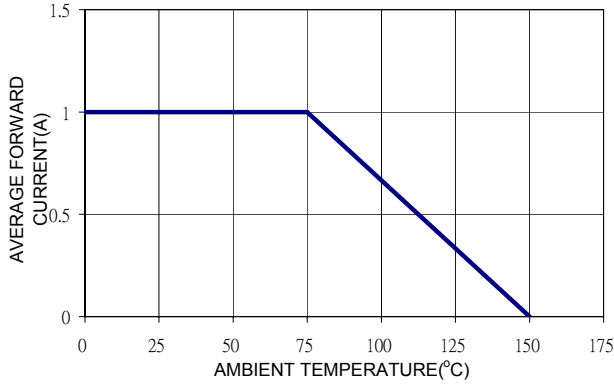


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

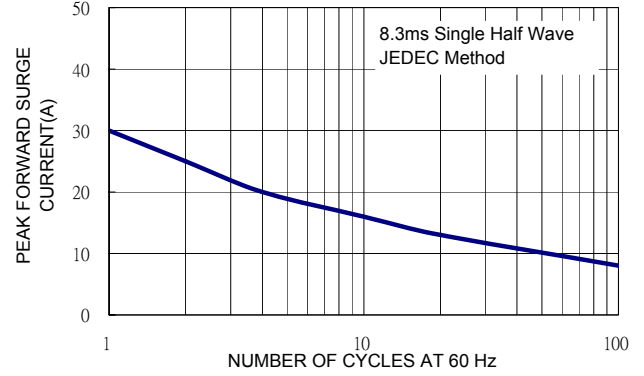


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

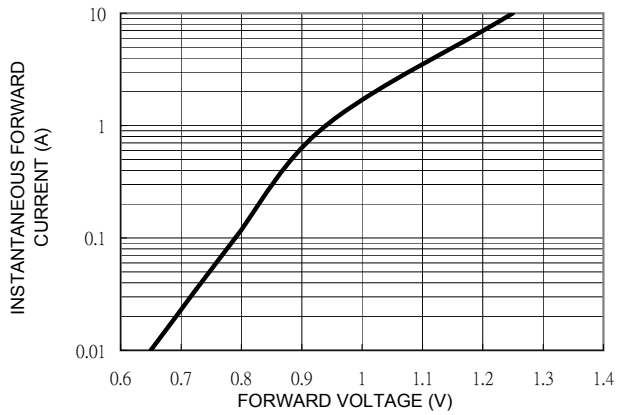


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

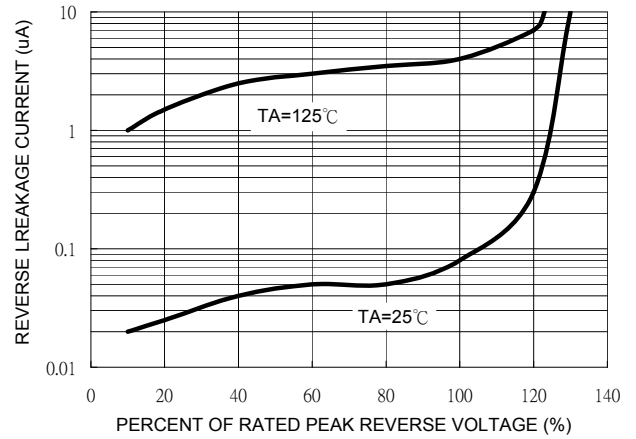
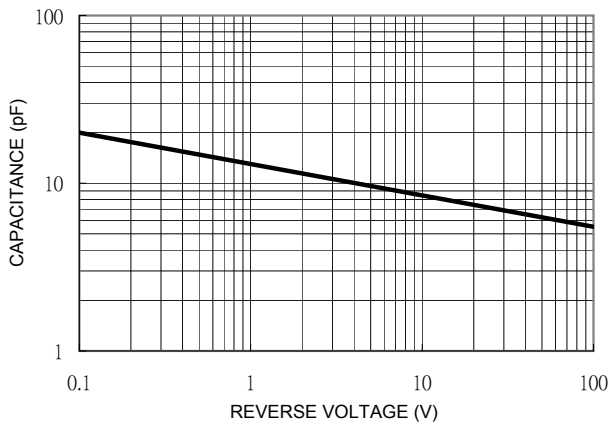


FIG. 5 TYPICAL JUNCTION CAPACITANCE



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