TAIWAN SEMICONDUCTOR

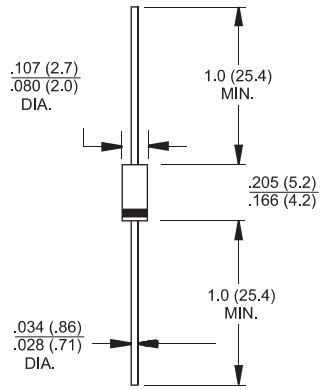
RoHS COMPLIANCE

# 1N4001G - 1N4007G

1.0 AMP. Glass Passivated Rectifiers

**DO-41**






**Dimensions in inches and (millimeters)**

## Features

- ✧ Glass passivated chip junction.
- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss

## Mechanical Data

- ✧ Cases: 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 /10 seconds/.375",(9.5mm) lead lengths at 5 lbs.,(2.3kg) tension
- ✧ Weight: 0.34 gram

## 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 4001G | 1N 4002G | 1N 4003G | 1N 4004G | 1N 4005G | 1N 4006G | 1N 4007G | Units |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent 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 °C | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 30 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @1.0A | $V_F$ | 1.0 | | | | | | | V |
| Maximum DC Reverse Current @ $T_A$=25 °C<br>at Rated DC Blocking Voltage @ $T_A$=125 °C | $I_R$ | 5.0<br>100 | | | | | | | uA<br>uA |
| Typical Junction Capacitance ( Note 1 ) | Cj | 10 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 80 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | - 65 to + 150 | | | | | | | °C |

Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.
2. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

# RATINGS AND CHARACTERISTIC CURVES (1N4001G THRU 1N4007G)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

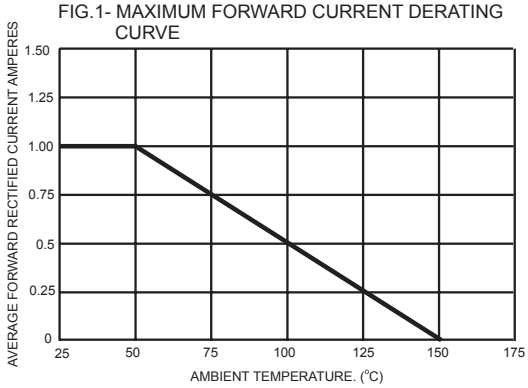



FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

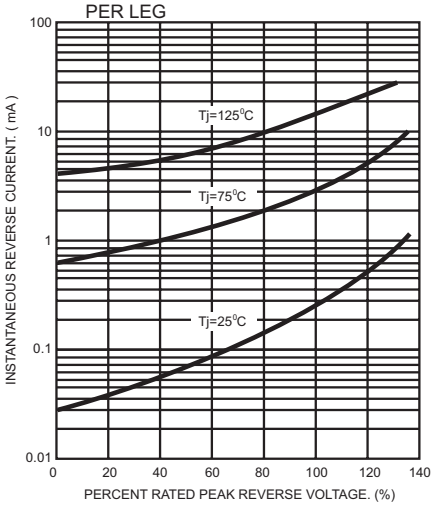



FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

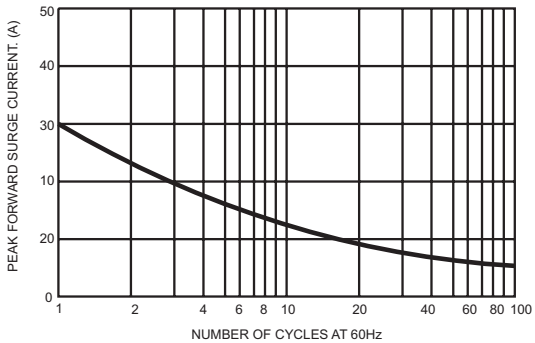



FIG.4- TYPICAL JUNCTION CAPACITANCE

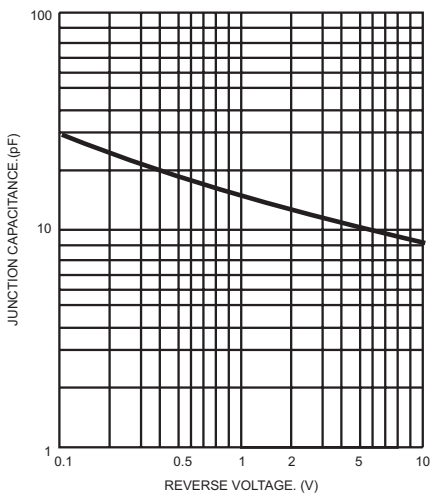



FIG.5- TYPICAL FORWARD CHARACTERISTICS

