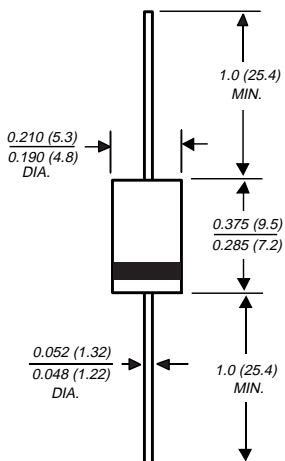


# 1N5400 THRU 1N5408

## GENERAL PURPOSE PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts      Forward Current - 3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ High surge current capability
- ◆ Construction utilizes void-free molded plastic technique
- ◆ 3.0 Ampere operation at  $T_L=105^\circ\text{C}$  with no thermal runaway
- ◆ Typical  $I_R$  less than  $0.1\mu\text{A}$
- ◆ High temperature soldering guaranteed:  $250^\circ\text{C}/10$  seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.04 ounce, 1.1 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

|  | SYMBOLS         | 1N 5400       | 1N 5401 | 1N 5402 | 1N 5403 | 1N 5404 | 1N 5405 | 1N 5406 | 1N 5407 | 1N 5408 | UNITS                     |
|--|-----------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------------------------|
| *Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 50            | 100     | 200     | 300     | 400     | 500     | 600     | 800     | 1000    | Volts                     |
| *Maximum RMS voltage   | $V_{RMS}$       | 35            | 70      | 140     | 210     | 280     | 350     | 420     | 560     | 700     | Volts                     |
| *Maximum DC blocking voltage to $T_A=150^\circ\text{C}$  | $V_{DC}$        | 50            | 100     | 200     | 300     | 400     | 500     | 600     | 800     | 1000    | Volts                     |
| *Maximum average forward rectified current 0.5" (12.5mm) lead length at $T_L=105^\circ\text{C}$                              | $I_{(AV)}$      | 3.0           |         |         |         |         |         |         |         |         | Amps                      |
| *Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L=105^\circ\text{C}$ | $I_{FSM}$       | 200.0         |         |         |         |         |         |         |         |         | Amps                      |
| *Maximum instantaneous forward voltage at 3.0A   | $V_F$           | 1.2           |         |         |         |         |         |         |         |         | Volts                     |
| *Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=150^\circ\text{C}$                      | $I_R$           | 10.0<br>500.0 |         |         |         |         |         |         |         |         | $\mu\text{A}$             |
| *Maximum full load reverse current full cycle average, 0.5" (12.5mm) lead length at $T_L=105^\circ\text{C}$                  | $I_{R(AV)}$     | 500.0         |         |         |         |         |         |         |         |         | $\mu\text{A}$             |
| Typical junction capacitance (NOTE 1)  | $C_J$           | 30.0          |         |         |         |         |         |         |         |         | pF                        |
| *Typical thermal resistance (NOTE 2)   | $R_{\theta JA}$ | 20.0          |         |         |         |         |         |         |         |         | $^\circ\text{C}/\text{W}$ |
| Maximum DC blocking voltage temperature  | $T_A$           | +150          |         |         |         |         |         |         |         |         | $^\circ\text{C}$          |
| *Operating junction temperature range  | $T_J$           | -50 to +170   |         |         |         |         |         |         |         |         | $^\circ\text{C}$          |
| *Storage temperature range   | $T_{STG}$       | -50 to +170   |         |         |         |         |         |         |         |         | $^\circ\text{C}$          |

#### NOTES:

(1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(2) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted with 0.8 x 0.8" (20 x 20mm) copper heatsinks

\*JEDEC registered value

# RATINGS AND CHARACTERISTIC CURVES 1N5400 THRU 1N5408

FIG. 1 - FORWARD CURRENT DERATING CURVE

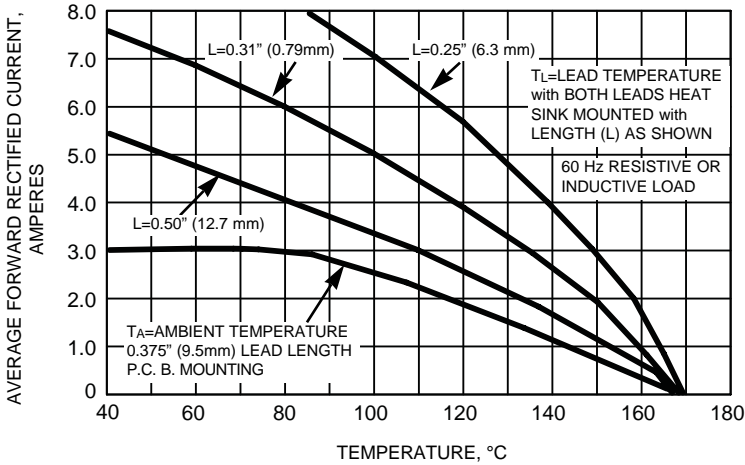


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

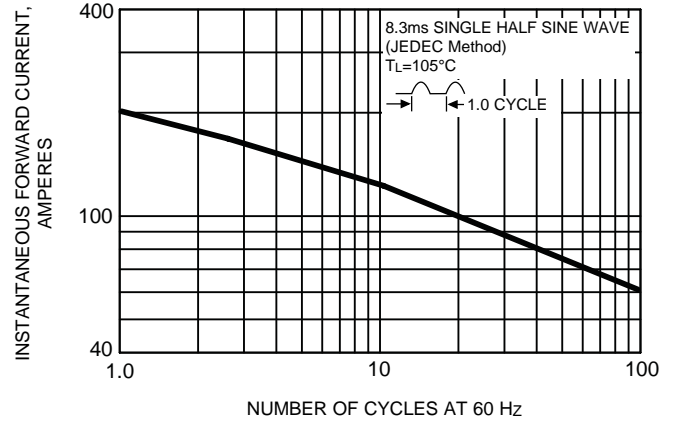


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

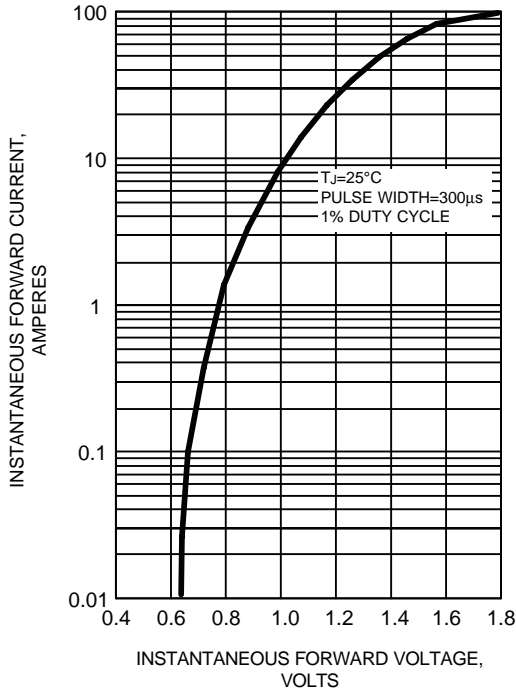


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

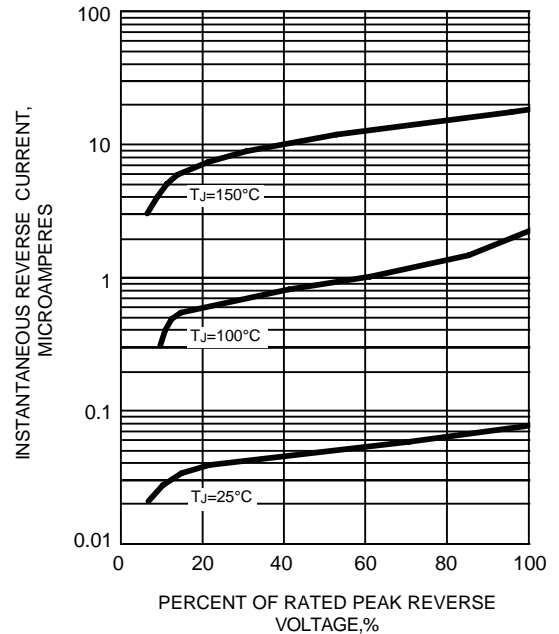


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

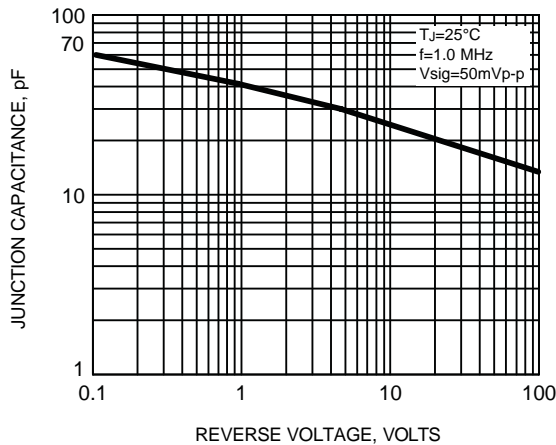


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

