

# Silicon Diode

## **1N5400**

50V / 3A

# DATASHEET

OEM – General Semiconductor

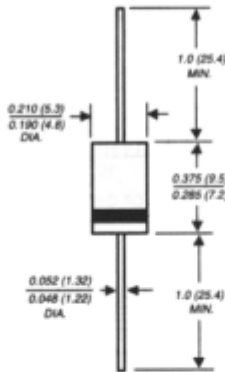
Source: General Semiconductor Databook 1998

# 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 at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=150^\circ\text{C}$	$I_R$	10.0 500.0									$\mu\text{A}$
*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  $0.8 \times 0.8"$  (20 x 20mm) copper heatsinks
- \*JEDEC registered value

**RATINGS AND CHARACTERISTIC CURVES 1N5400 THRU 1N5408**

