

# 1N5400 THRU 1N5408

## GENERAL PURPOSE SILICON RECTIFIER

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

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

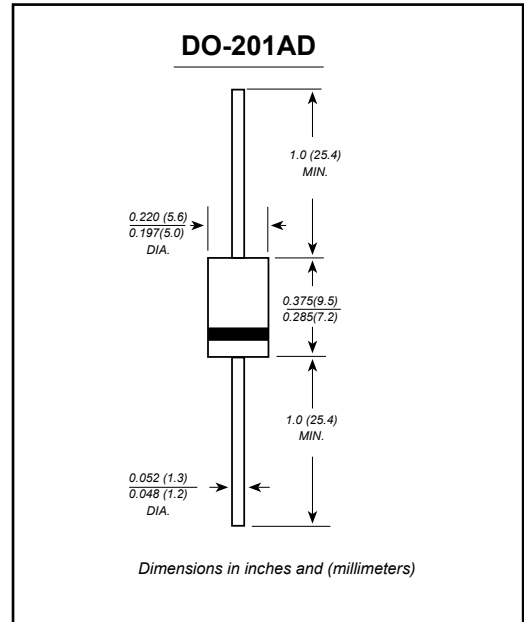
### MECHANICAL DATA

**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, 1.10 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

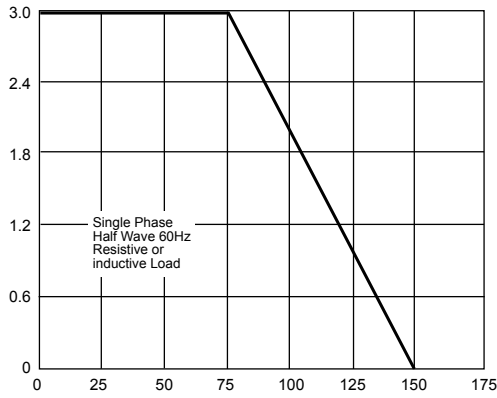
Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristic	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	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	3.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	200									A
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.1									V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 100									$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$C_J$	30.0									pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	20.0									$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150									$^\circ\text{C}$

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

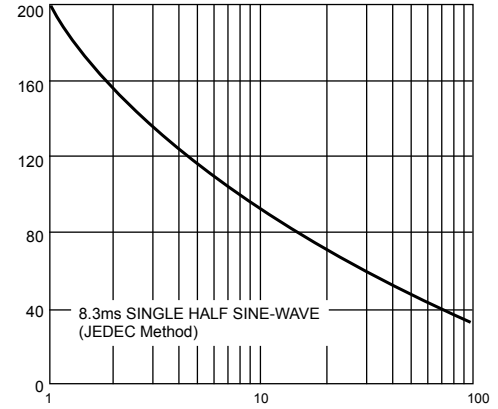
FIG. 1- FORWARD CURRENT DERATING CURVE



AMBIENT TEMPERATURE, °C

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

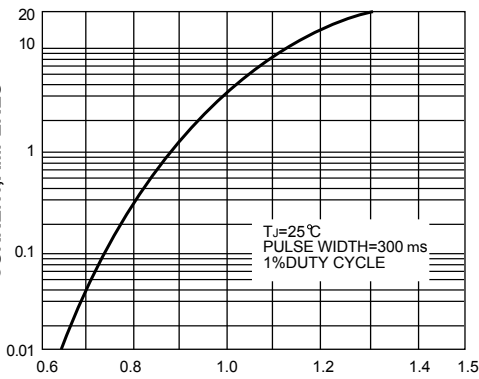
PEAK FORWARD SURGE CURRENT,  
AMPERES



NUMBER OF CYCLES AT 60 Hz

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

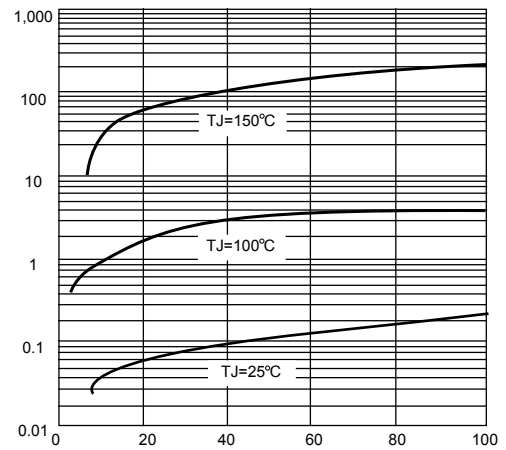
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS FORWARD VOLEAGE,  
VOLTS

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

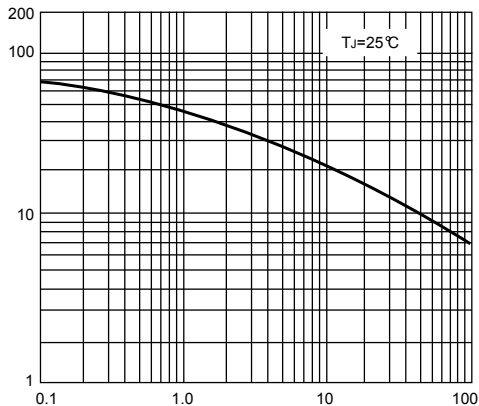
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES



PERCENT OF PEAK REVERSE VOLTAGE, %

FIG. 5-TYPICAL JUNCTION CAPACITANCE

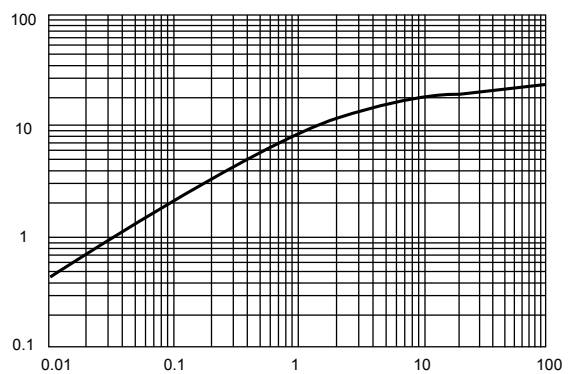
JUNCTION CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

TRANSIENT THERMAL IMPEDANCE,  
°C/W



t, PULSE DURATION, sec.