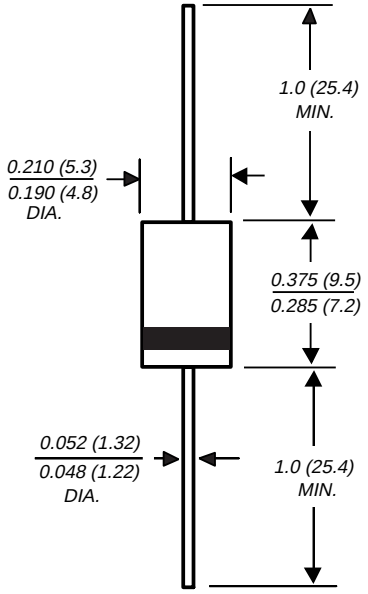
GENERAL SEMICONDUCTOR®

1N5400 THRU 1N5408

General Purpose Plastic Rectifier

Reverse Voltage 50 to 1000 V
Forward Current 3.0 A

DO-201AD



Dimensions in inches and (millimeters)

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High surge current capability
- Construction utilizes void-free molded plastic technique
- 3.0 Ampere operation at T_L=105°C with no thermal runaway
- Typical I_R less than 0.1µA
- 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, 1.1 grams

Maximum Ratings & Thermal Characteristics

Ratings at 25°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	V
*Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
*Maximum DC blocking voltage to T_A=150°C	V_{DC}	50	100	200	300	400	500	600	800	1000	V
*Maximum average forward rectified current 0.5" (12.5mm) lead length at T_L=105°C	$I_{F(AV)}$	3.0									A
*Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=105°C	I_{FSM}	200									A
*Maximum full load reverse current full cycle average, 0.5",(12.5mm) lead length at T_L=105°C	$I_{R(AV)}$	500									µA
*Typical thermal resistance (NOTE 1)	$R_{\Theta JA}$	20									°C/W
Maximum DC blocking voltage temperature	T_A	+150									°C
*Operating junction temperature range	T_J	-50 to + 170									°C
*Storage temperature range	T_{STG}	-50 to + 170									°C

Electrical Characteristics

Ratings at 25°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 instantaneous forward voltage at 3.0A	V_F	1.2									V
*Maximum DC reverse current at rated DC blocking voltage T_A=25°C	I_R	10									µA
*Maximum DC reverse current at rated DC blocking voltage T_A=150°C	I_R	500									µA
Typical junction capacitance at 4.0V, 1MHz	C_J	30									pF

NOTES:
(1) 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

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Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

FIG.1 - FORWARD CURRENT DERATING CURVE

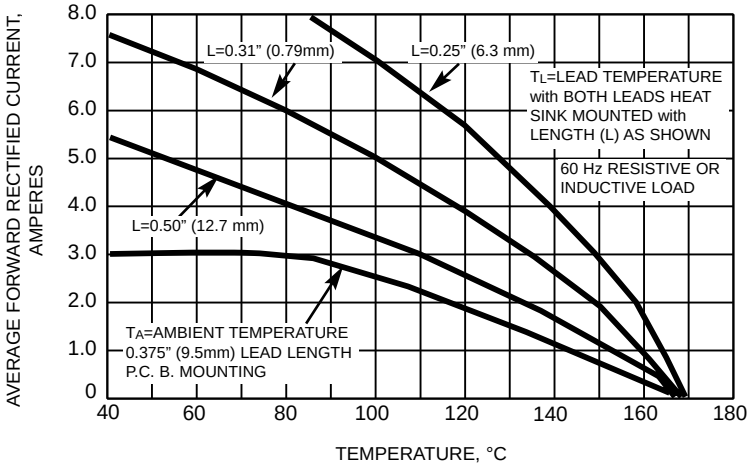

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

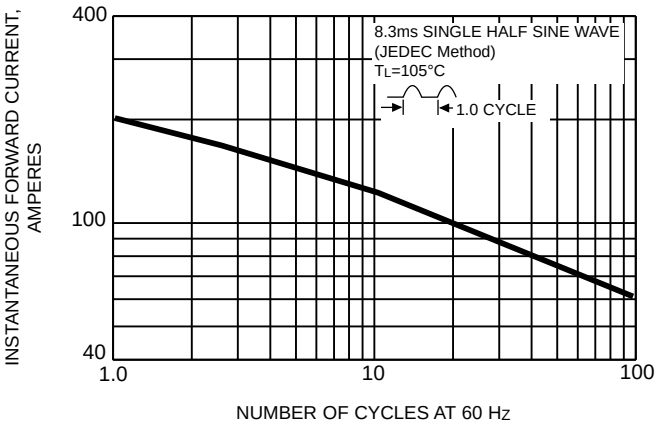

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

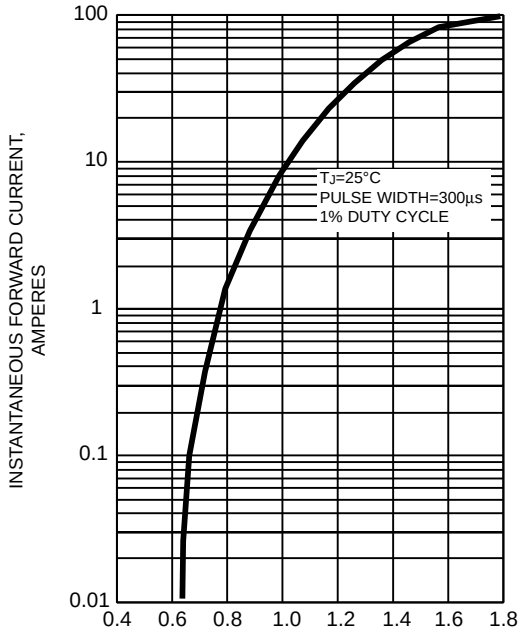

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

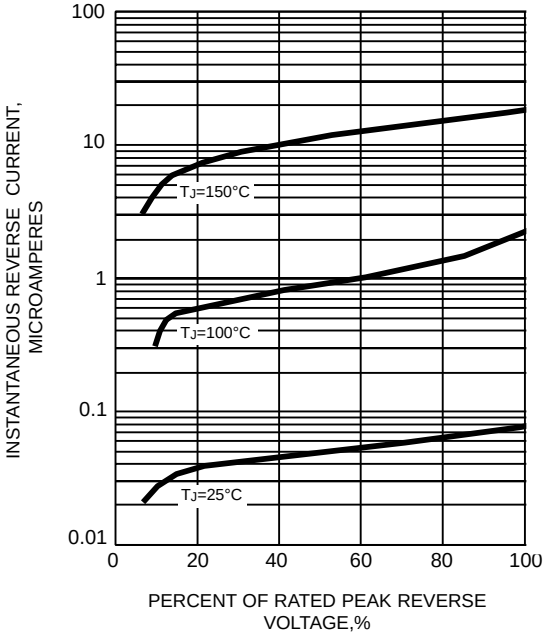

FIG. 5 - TYPICAL JUNCTION CAPACITANCE

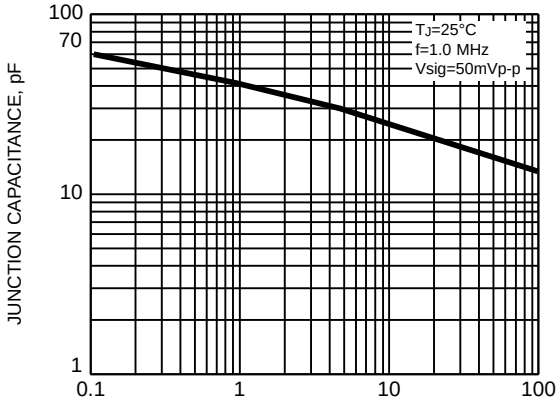

FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE