

# DEC

1N5820 THRU 1N5822

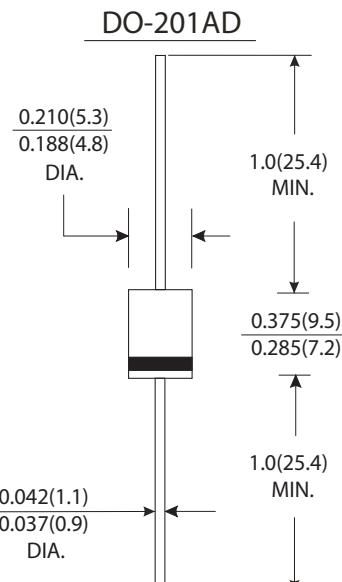
CURRENT 3.0Amperes  
VOLTAGE 20 to 40 Volts

## Features

- Plastic Package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, Low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed :  
250 °C/10 seconds at terminals,  
0.375" (9.5mm) lead length, 5lbs. (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 : 0.041 ounce, 1.15 gram



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

(Ratings at 25 °C ambient temperature unless otherwise specified, single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%)

	Symbols	1N5820	1N5821	1N5822	Units
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	Volts
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	Volts
Maximum non-repetitive peak reverse voltage	V <sub>RSM</sub>	24	36	48	Volts
Maximum average forward rectified current 0.375"(9.5mm) lead length at T <sub>L</sub> =95 °C	I <sub>(AV)</sub>	3.0			Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) at T <sub>L</sub> =75 °C	I <sub>FSM</sub>	80.0			Amps
Maximum instantaneous forward voltage at 3.0A (Note 1) Maximum instantaneous forward voltage at 9.4A (Note 2)	V <sub>F</sub> V <sub>F</sub>	0.475 0.850	0.500 0.900	0.525 0.950	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note1) T <sub>A</sub> =25 °C T <sub>A</sub> =100 °C	I <sub>R</sub>	1.5			mA
		20.0			
Typical thermal resistance (Note 2)	R <sub>θ JA</sub> R <sub>θ JL</sub>	40.0 10.0			°C/W
Operating junction temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125			°C

### Notes:

- Pulse test: 300 μS pulse width, 1% duty cycle
- Thermal resistance (from junction to ambient) Vertical P.C.B. mounted, 0.500"(12.7mm) lead length with 2.5X2.5(63.5X63.5mm) copper pads

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## RATINGS AND CHARACTERISTIC CURVES 1N5820-1N5822

FIG.1-FORWARD CURRENT DERATING CURVE

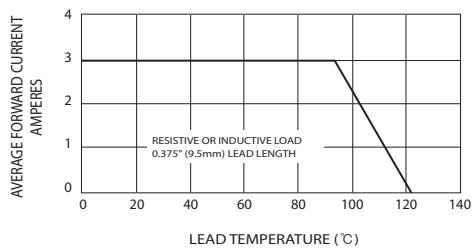


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

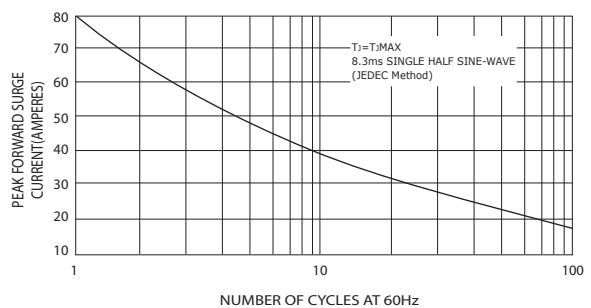


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

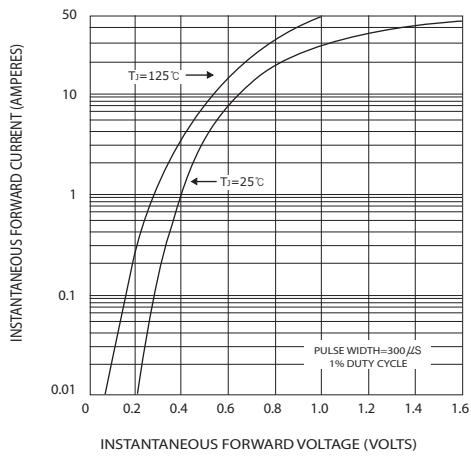


FIG.4-TYPICAL REVERSE CHARACTERISTICS

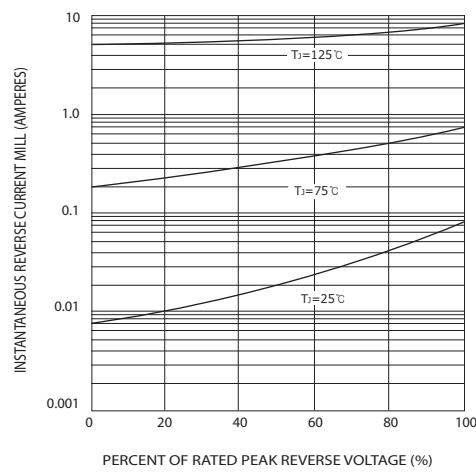


FIG.5-TYPICAL JUNCTION CAPACITANCE

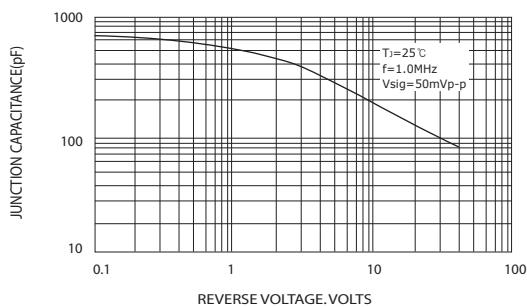


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

