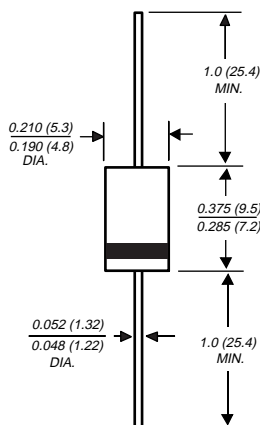


# 1N5820 THRU 1N5822

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40 Volts    Forward Current - 3.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) 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, 1.12 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5820	1N5821	1N5822	UNITS
* Maximum repetitive peak reverse voltage	VRRM	20	30	40	Volts
Maximum RMS voltage	VRMS	14	21	28	Volts
* Maximum DC blocking voltage	VDC	20	30	40	Volts
* Non-repetitive peak reverse voltage	VRSM	24	36	48	Volts
* Maximum average forward rectified current 0.375" (9.5mm) lead length at T <sub>L</sub> =95°C	I(AV)	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 3.0 (NOTE 1)	V <sub>F</sub>	0.475	0.500	0.525	Volts
* Maximum instantaneous forward voltage at 9.4 (NOTE 1)	V <sub>F</sub>	0.850	0.900	0.950	Volts
* Maximum average reverse current at rated DC blocking voltage (NOTE 1)	I <sub>R</sub>	2.0 20.0			mA
Typical thermal resistance (NOTE 2)	R <sub>θJA</sub>	40.0			°C/W
	R <sub>θJL</sub>	10.0			
* Storage and operating junction temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125			°C

\*JEDEC registered values

### NOTES:

- (1) Pulse test: 300µs pulse width, 1% duty cycle
- (2) Thermal resistance from junction to lead vertical P.C.B. mounted, 0.500" (12.7mm) lead length with 2.5 x 2.5" (63.5 x 63.5mm) copper pad

# RATINGS AND CHARACTERISTIC CURVES 1N5820 THRU 1N5822

FIG. 1 - FORWARD CURRENT DERATING CURVE

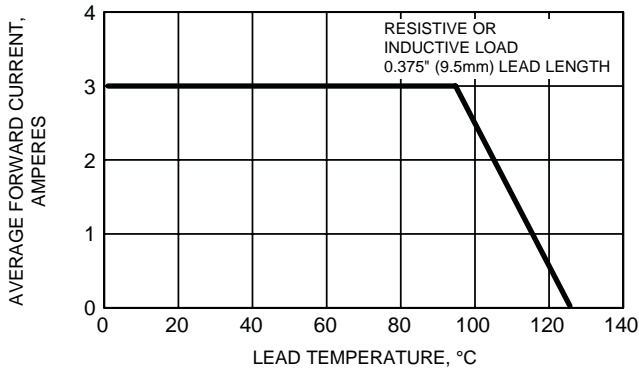


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

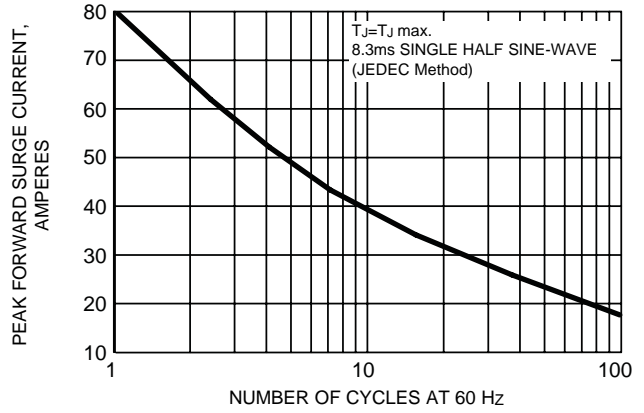


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

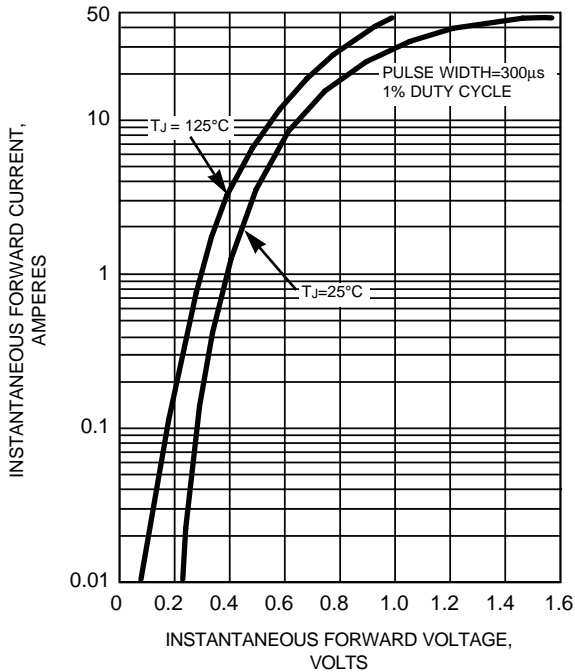


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

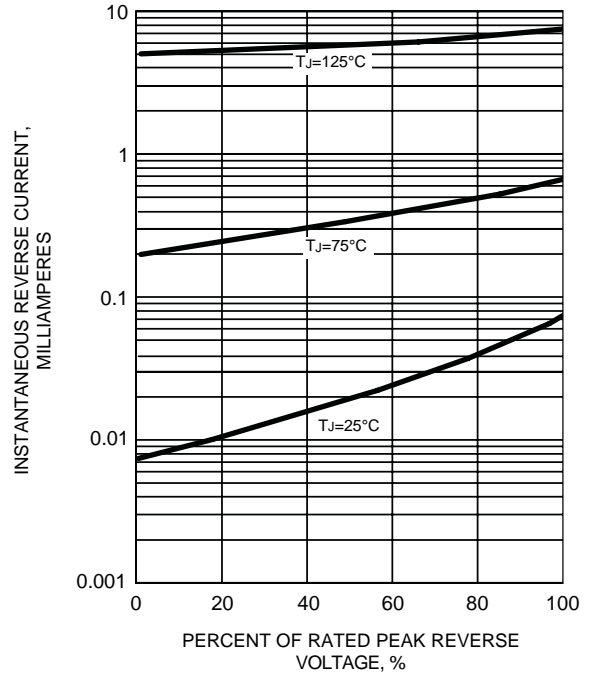


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

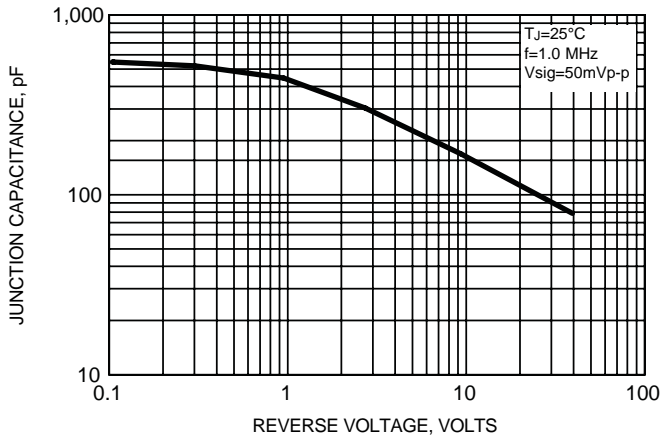


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

