

# 1N5820 THRU 1N5822

## SCHOTTKY BARRIER RECTIFIER

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

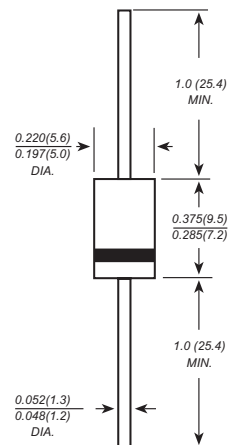
### FEATURES

Plastic package has Underwriters Laboratory Flammability Classification 94V-0  
 Metal silicon junction, majority carrier conduction  
 Guardring 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, 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

**DO-201AD**



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

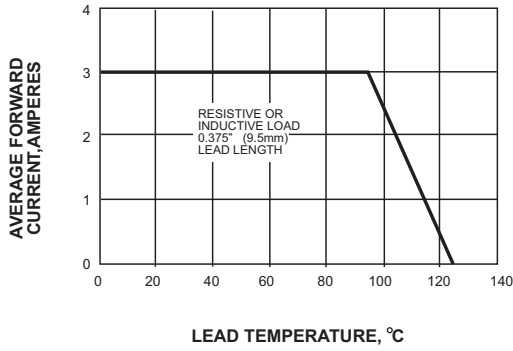
Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for current capacitive load derate by 20%.

	SYMBOLS	1N5820	1N5821	1N5822	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	VOLTS
Maximum RMS voltage	$V_{RMS}$	14	21	28	VOLTS
Maximum DC blocking voltage	$V_{DC}$	20	30	40	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=95^\circ C$	$I_{(AV)}$	3.0			Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	70.0			Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.475	0.500	0.525	Volts
Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=100^\circ C$	$I_R$	2.0 40.0			mA
Typical junction capacitance (NOTE 1)	$C_J$	300.0			pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	40.0			$^\circ C/W$
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +125			$^\circ C$

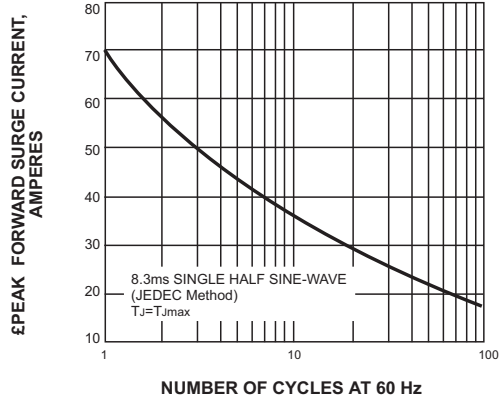
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

**RATINGS AND CHARACTERISTIC CURVES 1N5820 THRU 1N5822**

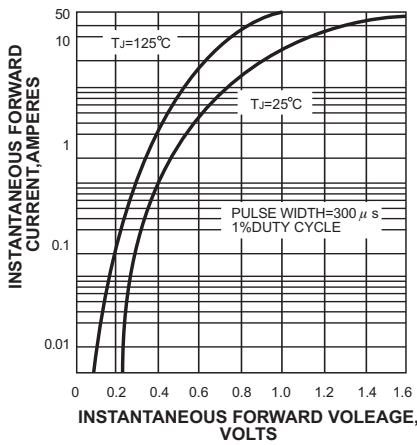
**FIG. 1- FORWARD CURRENT DERATING CURVE**



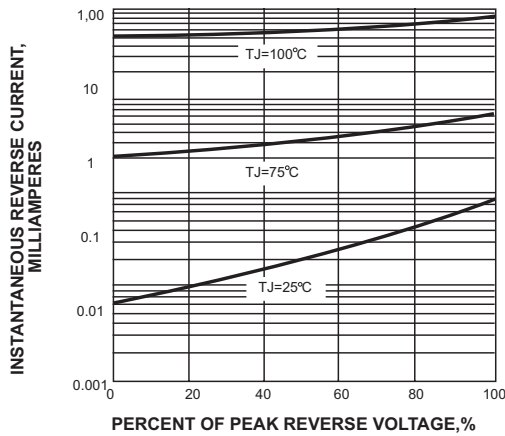
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



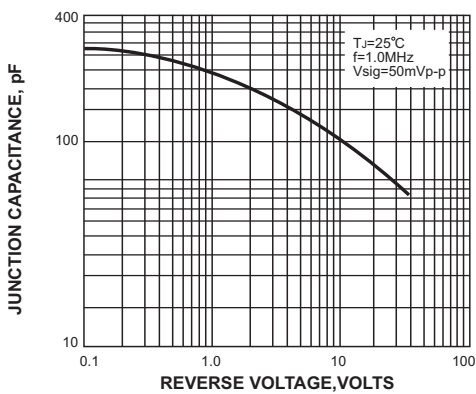
**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

