



# 1N5820 thru 1N5822

Schottky Barrier Rectifiers  
Reverse Voltage 20 to 40 Volts    Forward Current 3.0 Amperes

## Features

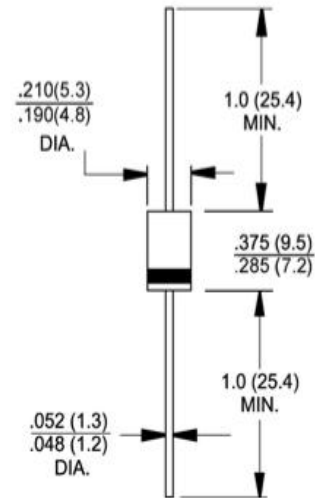
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Low power loss, high efficiency
- ◆ For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- ◆ Guardring for overvoltage protection



DO-201AD

## Mechanical Data

- ◆ **Case:** JEDEC DO-201AD molded plastic body
- ◆ **Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
High temperature soldering guaranteed:  
250°C/10 seconds 0.375" (9.5mm) lead length, 5lbs (2.3kg) tension
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any
- ◆ **Weight:** 0.041 ounce, 1.15 grams



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	1N5820	1N5821	1N5822	UNIT
Maximum repetitive peak reverse voltage	VRRM	20	30	40	V
Maximum RMS voltage	VRMS	14	21	28	V
Maximum DC blocking voltage	VDC	20	30	40	V
Maximum average forward rectified current at TL(see Fig.1)	IF(AV)	3			A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	IFSM	80			A
Maximum instantaneous forward voltage at 3.0A (Note1)	VF	0.475	0.500	0.500	V
Maximum instantaneous forward voltage at 9.4A (Note1)	VF	0.850	0.900	0.950	V
Maximum DC reverse current at rated DC blocking voltage	$T_J=25^\circ\text{C}$	0.15			mA
	$T_J=125^\circ\text{C}$	15			
Typical thermal resistance junction to ambient(Note2)	$R_{\theta JA}$	40			$^\circ\text{C/W}$
Typical thermal resistance junction to lead(Note2)	$R_{\theta JL}$	18			$^\circ\text{C/W}$
Typical thermal resistance junction to case(Note2)	$R_{\theta JC}$	23			$^\circ\text{C/W}$
Typical junction capacitance. Measured at 1.0MHz and applied reverse voltage of 4.0V DC	Cj	250			pF
Operating junction temperature range	TJ	125			$^\circ\text{C}$
Storage temperature range	TSTG	- 55 to + 150			$^\circ\text{C}$

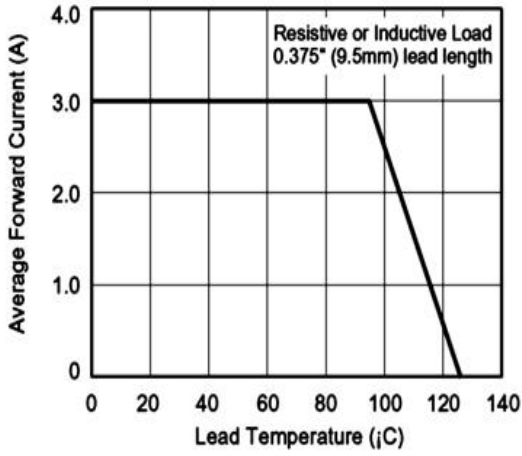
Notes: 1. Pulse test: 300 $\mu\text{s}$  pulse width, 1% duty cycle

2. Thermal Resistance at .375"(9.5mm)Lead Length, PC Board Mounted.

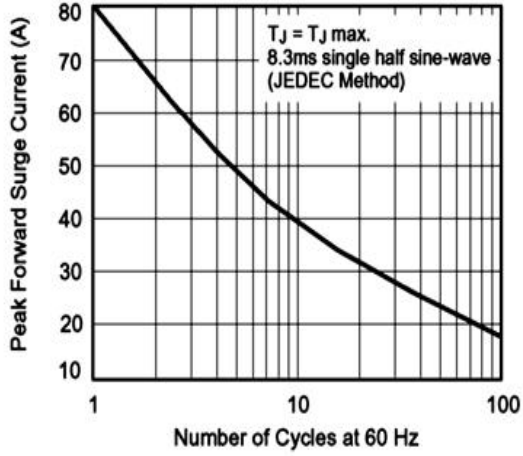
# RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

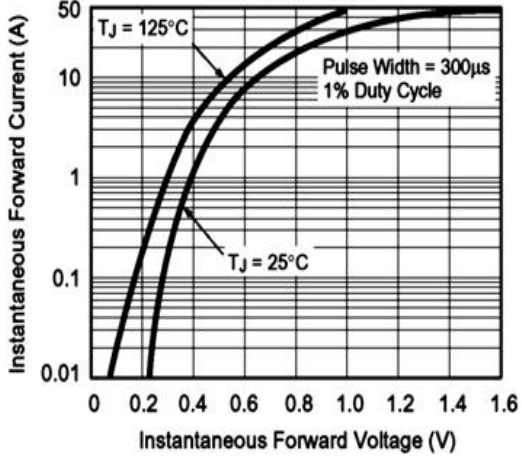
**Fig. 1 - Forward Current Derating Curve**



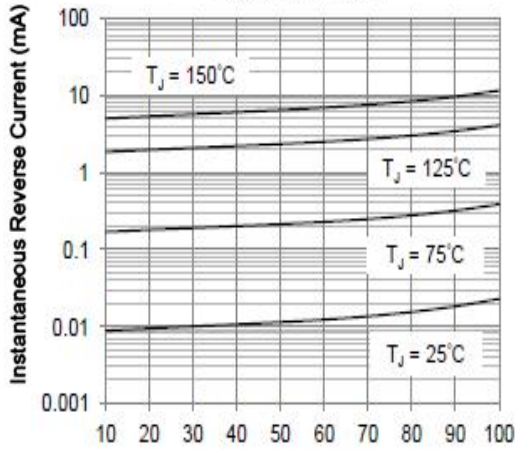
**Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current**



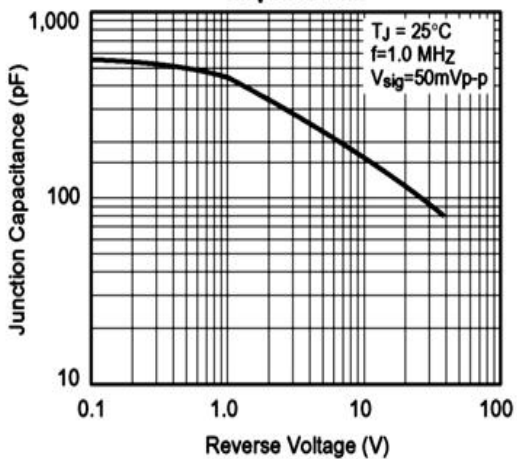
**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**



**Fig. 6 - Typical Transient Thermal Impedance**

