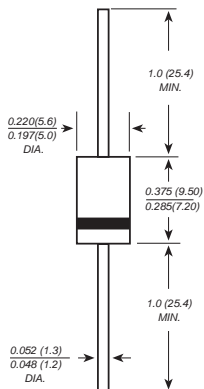


# 1N5820 THRU 1N5822

## 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
- ◆ 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:  
260°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

### 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     | V                  |
| Maximum RMS voltage   | $V_{RMS}$       | 14          | 21     | 28     | V                  |
| Maximum DC blocking voltage   | $V_{DC}$        | 20          | 30     | 40     | V                  |
| Maximum average forward rectified current<br>0.375" (9.5mm) lead length at $T_L=95^\circ\text{C}$               | $I_{(AV)}$      | 3.0         |        |        | A                  |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)          | $I_{FSM}$       | 80.0        |        |        | A                  |
| Maximum instantaneous forward voltage at 3.0A   | $V_F$           | 0.475       | 0.500  | 0.525  | V                  |
| Maximum DC reverse current<br>$T_A=25^\circ\text{C}$<br>at rated DC blocking voltage<br>$T_A=100^\circ\text{C}$ | $I_R$           | 0.5<br>40.0 |        |        | mA                 |
| Typical junction capacitance (NOTE 1)   | $C_J$           | 300.0       |        |        | pF                 |
| Typical thermal resistance (NOTE 2)   | $R_{\theta JA}$ | 40.0        |        |        | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -55 to +125 |        |        | $^\circ\text{C}$   |

**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

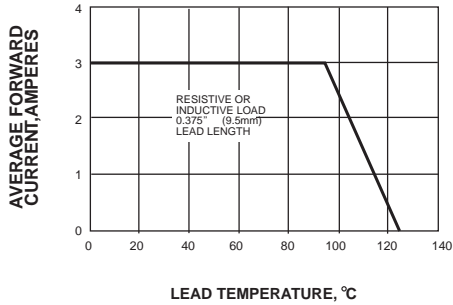


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

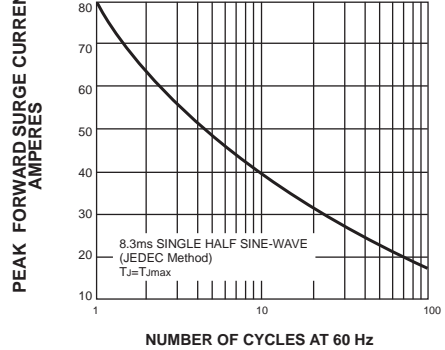


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

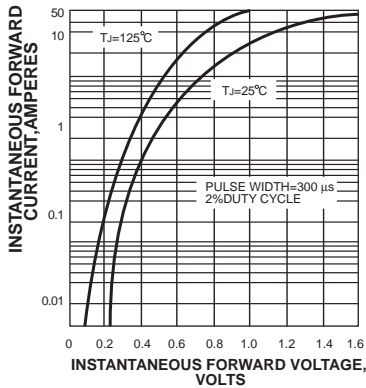


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

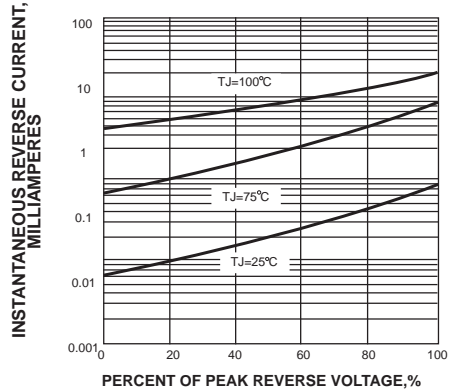


FIG. 5- TYPICAL JUNCTION CAPACITANCE

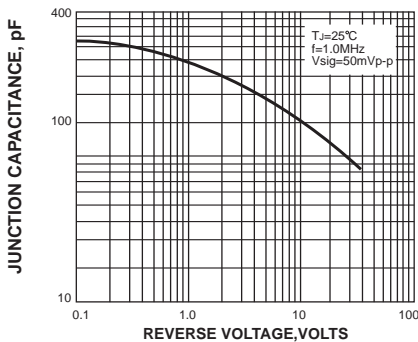


FIG. 6- TYPICAL TRANSIENT THERMAL IMPEDANCE

