

**SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE 20 to 40 Volts CURRENT 3.0 Amperes**

**FEATURES**

- \* Low switching noise
- \* Low forward voltage drop
- \* High current capability
- \* High switching capability
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

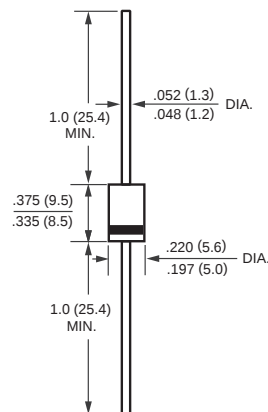
- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 1.18 grams

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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



**DO-201AD**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

| RATINGS                                                                                              | SYMBOL   | 1N5820       | 1N5821 | 1N5822 | UNITS |
|------------------------------------------------------------------------------------------------------|----------|--------------|--------|--------|-------|
| Maximum Recurrent 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 |
| Maximum Average Forward Rectified Current<br>.375" (9.5mm) lead length at TL = 95°C                  | IO       | 3.0          |        |        | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | IFSM     | 80           |        |        | Amps  |
| Typical Thermal Resistance (Note 2)                                                                  | R θJA    | 28           |        |        | °C/W  |
| Typical Junction Capacitance (Note 3)                                                                | CJ       | 250          |        |        | pF    |
| Storage and Operating Temperature Range                                                              | TJ, TSTG | -55 to + 150 |        |        | °C    |

**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS                                                          |                          | SYMBOL         | 1N5820 | 1N5821 | 1N5822 | UNITS |
|--------------------------------------------------------------------------|--------------------------|----------------|--------|--------|--------|-------|
| Maximum Instantaneous Forward Voltage at 3.0A DC (Note 1)                |                          | V <sub>F</sub> | .475   | .500   | .525   | Volts |
| Maximum Instantaneous Forward Voltage at 9.4A DC (Note 1)                |                          | V <sub>F</sub> | .850   | .900   | .950   | Volts |
| Maximum Average Reverse Current at<br>Rated DC Blocking Voltage (Note 1) | @ T <sub>A</sub> = 25°C  | I <sub>R</sub> | 2.0    |        |        | mAmps |
|                                                                          | @ T <sub>A</sub> = 100°C |                | 20     |        |        |       |

NOTES : 1. Measured at Pulse Width 300 uS, Duty 2%.

2. Thermal Resistance (Junction to Ambient): Vertical PC Board Mounting, 0.5" (12.7mm) Lead Length.

3. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

2002-11

# RATING AND CHARACTERISTIC CURVES ( 1N5820 THRU 1N5822 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

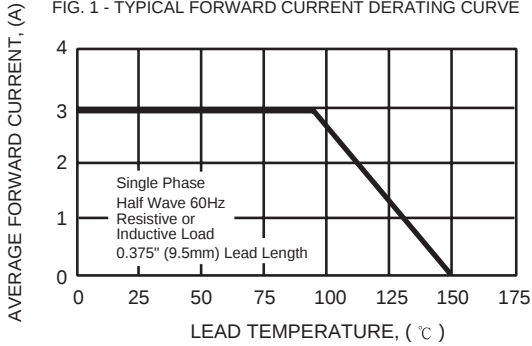


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

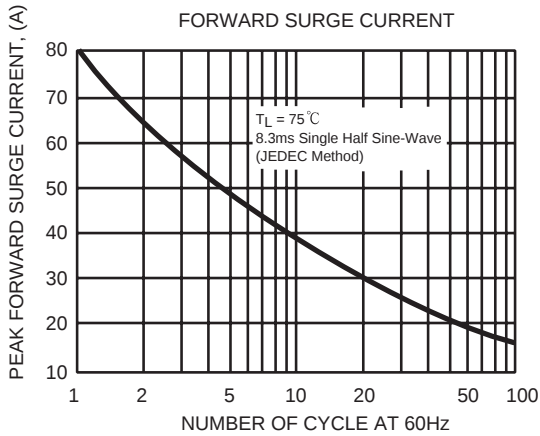


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

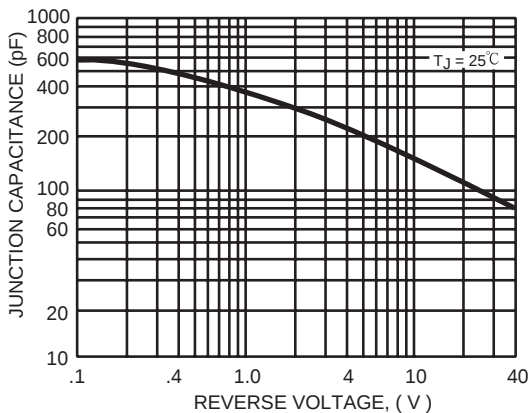


FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

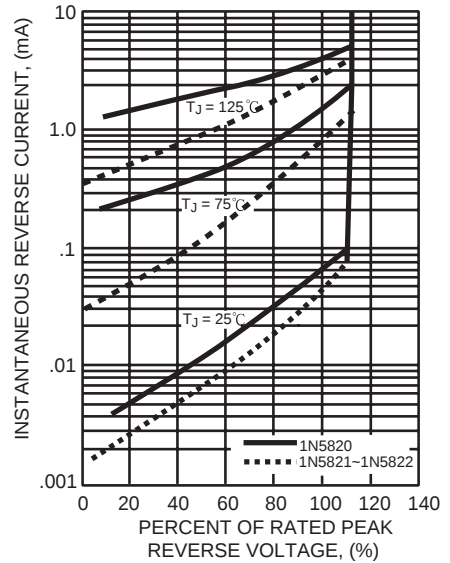


FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

