

# 1N5820 THRU 1N5822

3.0 AMP SCHOTTKY BARRIER RECTIFIERS



## FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Epitaxial construction

## MECHANICAL DATA

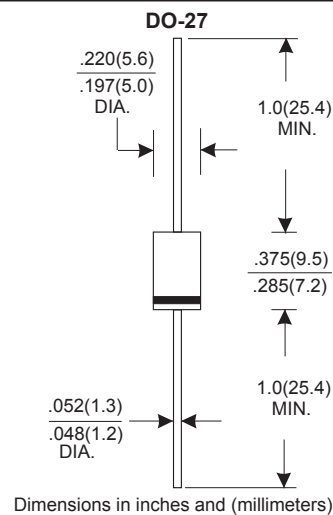
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 1.10 grams

## VOLTAGE RANGE

20 to 40 Volts

## CURRENT

3.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| TYPE NUMBER                                                                                           | 1N5820     | 1N5821 | 1N5822 | UNITS |
|-------------------------------------------------------------------------------------------------------|------------|--------|--------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                | 20         | 30     | 40     | V     |
| Maximum RMS Voltage                                                                                   | 14         | 21     | 28     | V     |
| Maximum DC Blocking Voltage                                                                           | 20         | 30     | 40     | V     |
| Maximum Average Forward Rectified Current<br>.375"(9.5mm) Lead Length at Ta=90°C                      | 3.0        |        |        | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 80         |        |        | A     |
| Maximum Instantaneous Forward Voltage at 3.0A                                                         | .475       | .500   | .525   | V     |
| Maximum DC Reverse Current<br>Ta=25°C                                                                 | 2.0        |        |        | mA    |
| at Rated DC Blocking Voltage<br>Ta=100°C                                                              | 20         |        |        | mA    |
| Typical Junction Capacitance (Note1)                                                                  | 250        |        |        | pF    |
| Typical Thermal Resistance RθJA (Note 2)                                                              | 20         |        |        | °C/W  |
| Operating Temperature Range Tj                                                                        | -65 — +125 |        |        | °C    |
| Storage Temperature Range Tstg                                                                        | -65 — +150 |        |        | °C    |

### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5"(12.7mm) Lead Length.

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

FIG.1-TYPICAL FORWARD CHARACTERISTICS

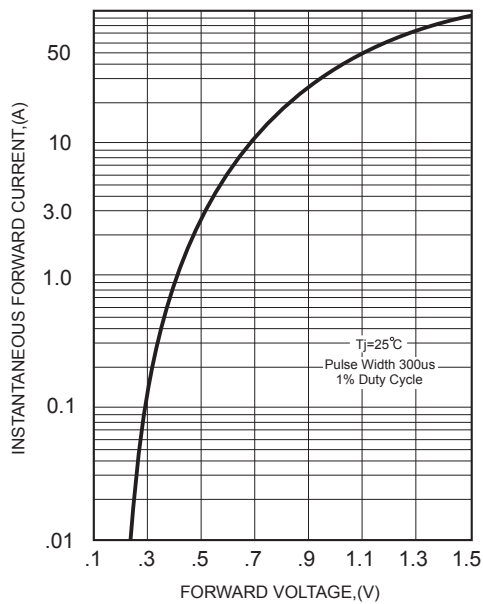


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

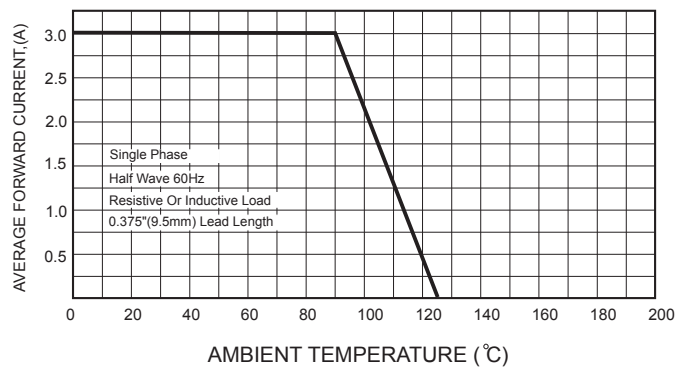


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

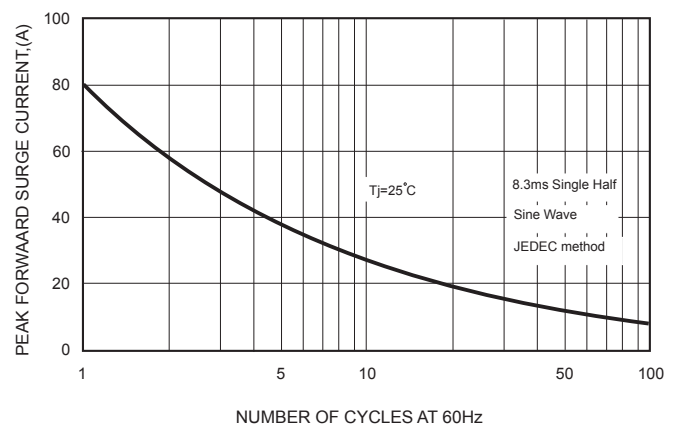


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

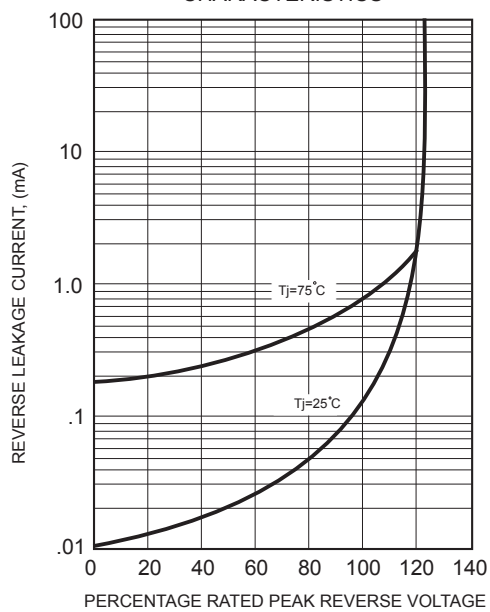


FIG.5-TYPICAL JUNCTION CAPACITANCE

