

# 1N5820 Series

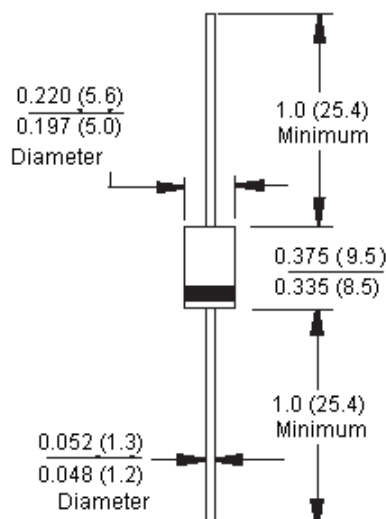
## Power Diodes - Schottky



### 3A Axial



#### DO-201AD



Dimensions : Inches (Millimetres)

### Features:

- Low forward voltage drop.
- High current capability.
- High reliability.
- High surge current capability.

### Mechanical Data:

|                                       |                                                                            |
|---------------------------------------|----------------------------------------------------------------------------|
| Cases                                 | : Moulded plastic DO-201AD.                                                |
| Lead                                  | : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed.          |
| Polarity                              | : Colour band denotes cathode end.                                         |
| High temperature soldering guaranteed | : 260°C/10 seconds/0.375", (9.5mm) lead lengths at 5lbs., (2.3kg) tension. |

### Maximum Ratings and Electrical Characteristics

Rating at 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                                                                                                   | Symbol            | 1N5820      | 1N5821 | 1N5822 | Unit |
|---------------------------------------------------------------------------------------------------------------|-------------------|-------------|--------|--------|------|
| Maximum recurrent peak reverse voltage                                                                        | V <sub>RRM</sub>  | 20          | 30     | 40     | V    |
| Maximum RMS voltage                                                                                           | V <sub>RMS</sub>  | 14          | 21     | 28     |      |
| Maximum DC blocking voltage                                                                                   | V <sub>DC</sub>   | 20          | 30     | 40     |      |
| Maximum average forward rectified current 0.375" (9.5mm)<br>Lead Length at T <sub>L</sub> = 90°C              | I <sub>(AV)</sub> | 3.0         |        |        | A    |
| Peak forward surge current, 8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method)          | I <sub>FSM</sub>  | 80          |        |        |      |
| Maximum instantaneous forward voltage at 3.0A                                                                 | V <sub>F</sub>    | 0.475       | 0.500  | 0.525  | V    |
| Maximum instantaneous forward voltage at 9.0A                                                                 |                   | 0.850       | 0.900  | 0.950  | V    |
| Maximum DC reverse current at T <sub>A</sub> = 25°C<br>at rated DC blocking voltage at T <sub>A</sub> = 100°C | I <sub>R</sub>    | 2.0<br>20   |        |        | mA   |
| Typical thermal resistance (Note 1)                                                                           | Rθ <sub>JA</sub>  | 40          |        |        | °C/W |
| Typical junction capacitance (Note 2)                                                                         | C <sub>J</sub>    | 200         |        |        | pF   |
| Operating temperature range                                                                                   | T <sub>j</sub>    | -65 to +125 |        |        | °C   |
| Storage temperature range                                                                                     | T <sub>stg</sub>  |             |        |        |      |

#### Notes:

1. Mount on Cu-pad size 16mm x 16mm on PCB.
2. Measured at 1MHz and applied reverse voltage of 4.0V dc.



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### Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

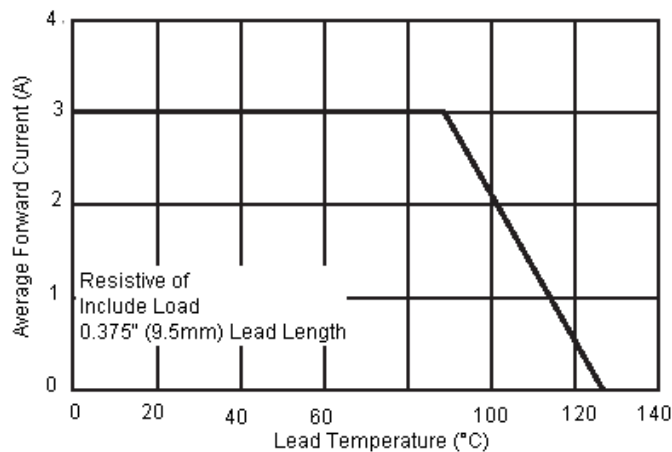


Figure 2 Typical Reverse Characteristics

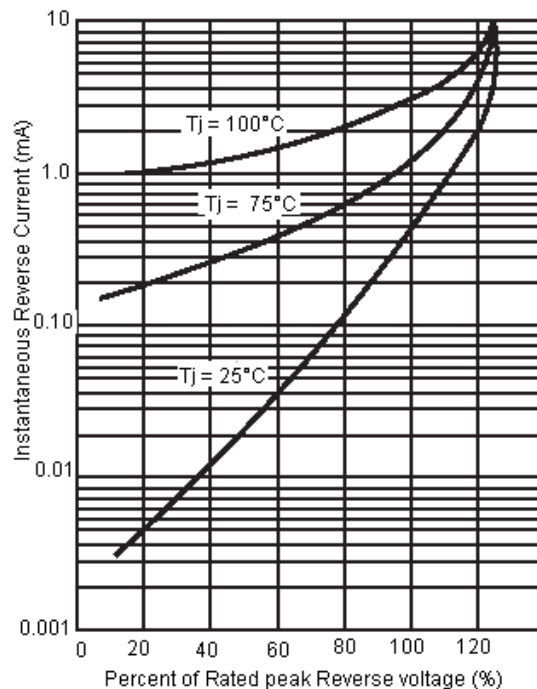


Figure 3 Maximum Non-Repetitive Forward Surge Current

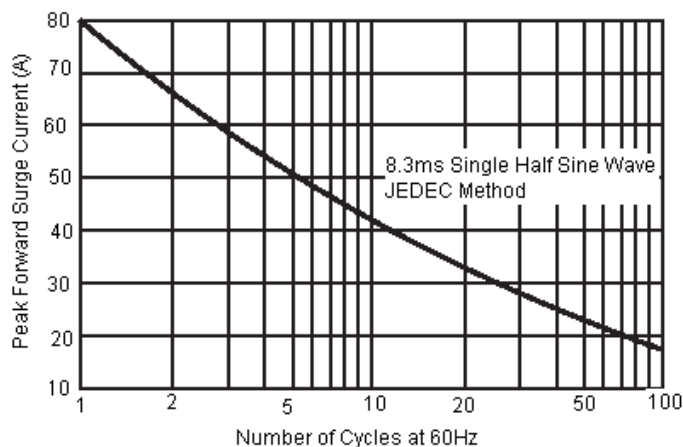
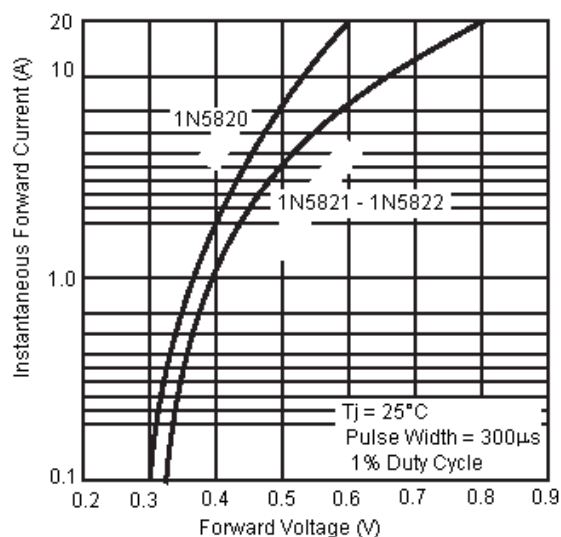


Figure 4 Typical Forward Characteristics

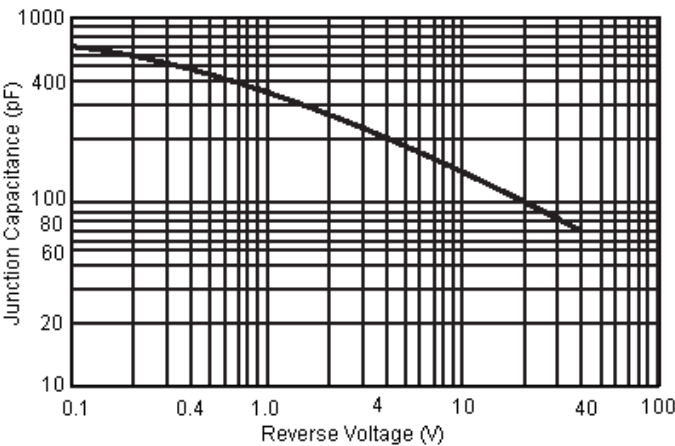


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Figure 5 Typical Junction Capacitance



### Specifications

| $I_F$ (av)<br>maximum<br>(A) | $V_{RRM}$<br>maximum<br>(v) | $V_F$<br>(V)<br>at $I_F = 3A$ | $I_{FSM}$<br>(A) | Length | Diameter | Package  | Part Number |
|------------------------------|-----------------------------|-------------------------------|------------------|--------|----------|----------|-------------|
| 3                            | 20                          | 0.47                          | 80               | 9.5    | 5.6      | DO-201AD | 1N5820      |
|                              | 30                          | 0.5                           |                  |        |          |          | 1N5821      |
|                              | 40                          | 0.52                          |                  |        |          |          | 1N5822      |

Dimensions : Millimetres

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