# Power Diodes
## Schottky

### 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 | : 260°C / 10 seconds / 0.375 inches, (9.5mm) lead |
| Soldering Guaranteed | : lengths at 5 lbs., (2.3 kg) tension |

### Maximum Ratings and Electrical Characteristics

Rating 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%

| Parameter | Symbol | 1N5820+ | 1N5821+ | 1N5822+ | Unit |
|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | |
| Maximum Average Forward Rectified Current 0.375 Inches (9.5 mm) Lead Length at $T_L$ = 90°C | $I_{(AV)}$ | 3 | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | $I_{FSM}$ | 80 | | | |
| Maximum Instantaneous Forward Voltage at 3 A | $V_F$ | 0.475 | 0.5 | 0.525 | V |
| Maximum Instantaneous Forward Voltage at 9 A | | 0.85 | 0.9 | 0.95 | |
| Maximum DC Reverse Current at $T_A$ = 25°C at Rated DC Blocking Voltage at $T_A$ = 100°C | $I_R$ | 2<br>20 | | | mA |
| Typical Thermal Resistance (Note 1) | $R_{\theta JA}$ | 40 | | | °C/W |
| Typical Junction Capacitance (Note 2) | $C_J$ | 200 | | | pF |
| Operating Temperature Range | $T_J$ | -65 to + 125 | | | °C |
| Storage Temperature Range | $T_{STG}$ | | | | |

**Notes:**

1. Mount on Cu-Pad Size 16 × 16 mm on PCB
2. Measured at 1 MHz and applied reverse voltage of 4 V DC

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## Specification Table

| $I_{F(av)}$ Maximum (A) | $V_{RRM}$ Maximum (V) | $V_F$ (V) at $I_F$ = 1A | $I_{FSM}$ (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

## Ratings and Characteristic Curves

**Figure 1 Maximum Forward Current Derating Curve**

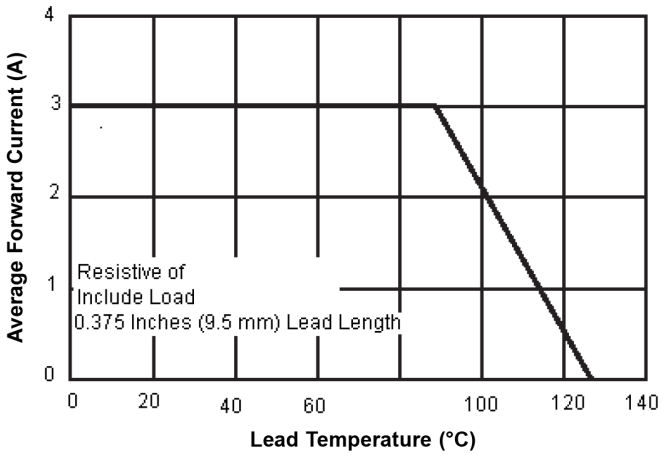



**Figure 2 Typical Reverse Characteristics**

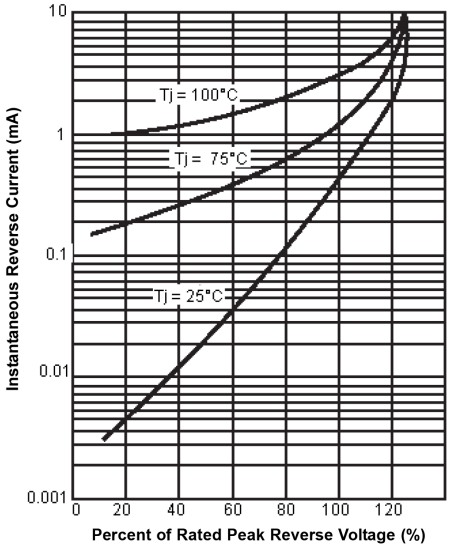



**Figure 3 Maximum Non-Repetitive Forward Surge Current**

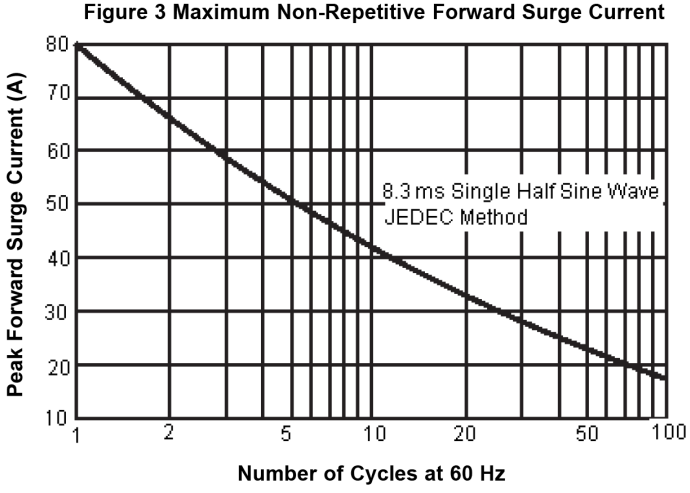



**Figure 4 Typical Forward Characteristics**

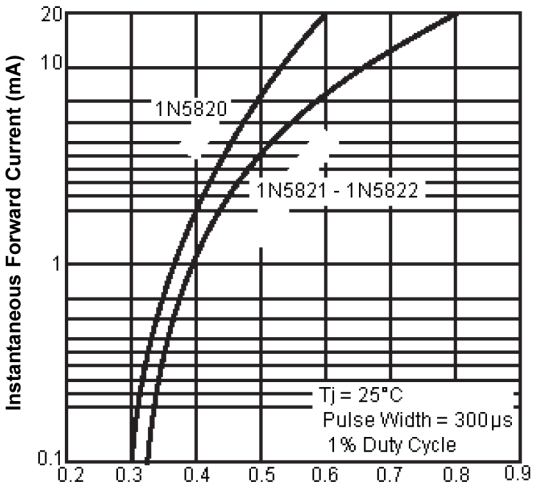
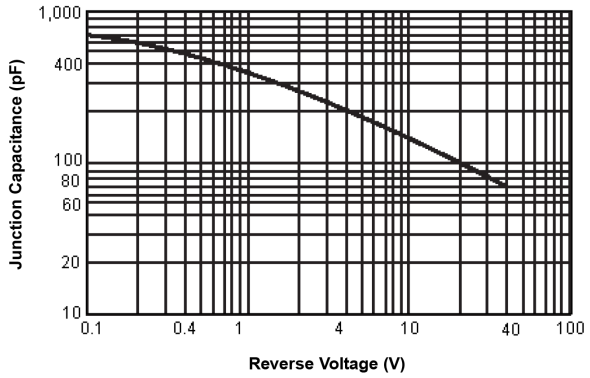
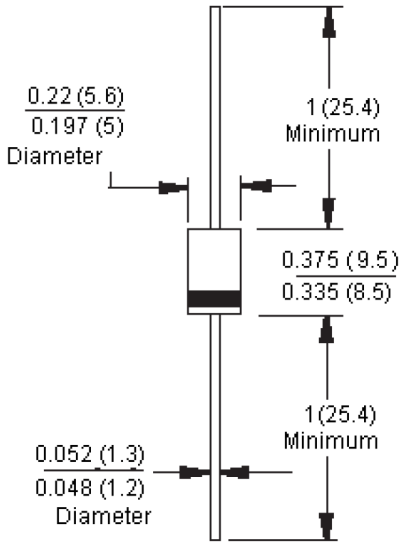


Figure 5 Typical Junction Capacitance




## Dimensions:

**DO-201AD**




Dimensions : Inches (Millimetres)

## Part Number Table

| Description | Part Number |
|---|---|
| Schottky Rectifier, 20V, 3A | 1N5820+ |
| Schottky Rectifier, 30V, 3A | 1N5821+ |
| Schottky Rectifier, 40V, 3A | 1N5822+ |