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# 1N5820 - 1N5822

## Features

- 3.0 ampere operation at  $T_A = 95^\circ\text{C}$  with no thermal runaway.
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.



**DO-201AD**  
COLOR BAND DENOTES CATHODE

## Schottky Rectifiers

### Absolute Maximum Ratings\* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter   | Value       |        |        | Units            |
|-------------|---|-------------|--------|--------|------------------|
|             |   | 1N5820      | 1N5821 | 1N5822 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage  | 20          | 30     | 40     | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current<br>3/8 " lead length @ $T_A = 95^\circ\text{C}$ | 3.0         |        |        | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave         | 80          |        |        | A                |
| $T_{stg}$   | Storage Temperature Range   | -65 to +125 |        |        | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature  | -65 to +125 |        |        | $^\circ\text{C}$ |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol          | Parameter                               | Value | Units                     |
|-----------------|---|-------|---------------------------|
| $P_D$           | Power Dissipation                       | 3.6   | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 28    | $^\circ\text{C}/\text{W}$ |

### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter  | Device    |        |        | Units    |
|--------|--|-----------|--------|--------|----------|
|        |  | 1N5820    | 1N5821 | 1N5822 |          |
| $V_F$  | Forward Voltage @ 3.0 A<br>@ 9.4 A   | 475       | 500    | 525    | mV       |
|        |  | 850       | 900    | 950    | mV       |
| $I_R$  | Reverse Current @ rated $V_R$<br>$T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$ | 0.5<br>20 |        |        | mA<br>mA |
| $C_T$  | Total Capacitance<br>$V_R = 4.0\text{ V}$ , $f = 1.0\text{ MHz}$                       | 190       |        |        | pF       |

Typical Characteristics

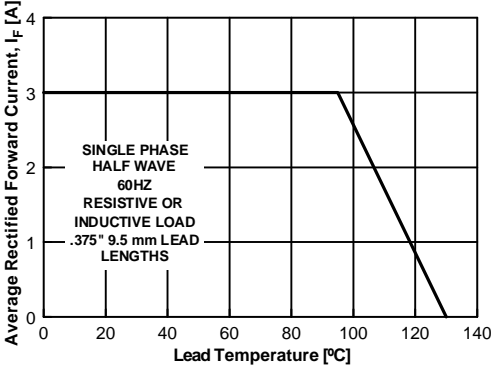


Figure 1. Forward Current Derating Curve

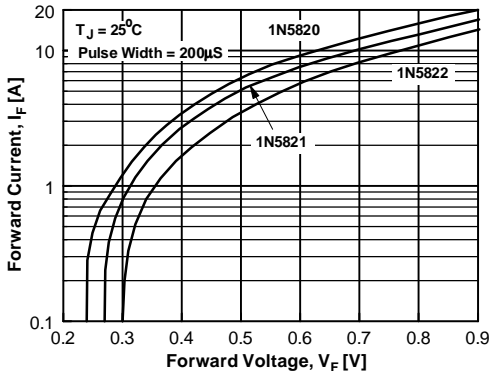


Figure 2. Forward Voltage Characteristics

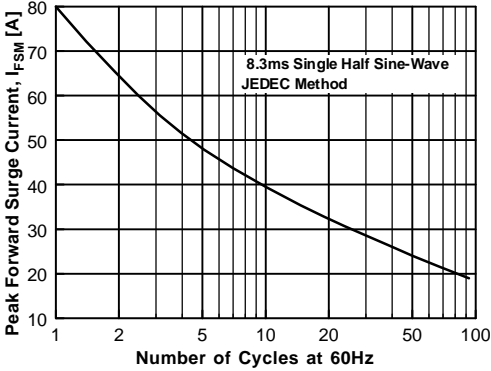


Figure 3. Non-Repetitive Surge Current

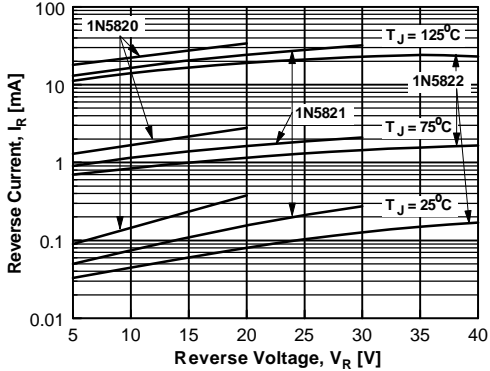


Figure 4. Reverse Current vs Reverse Voltage

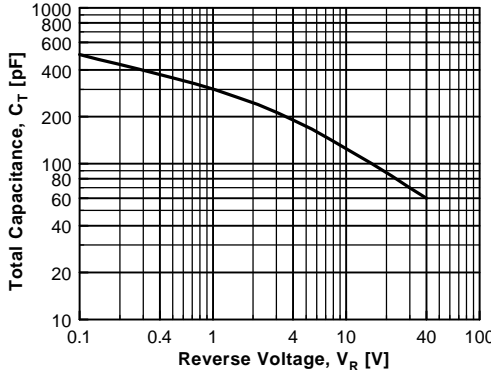


Figure 5. Total Capacitance

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