



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 3/8 " lead length @ $T_A = 95^\circ\text{C}$ | 3.0 | | | A |
| I_{FSM} | Non-repetitive Peak Forward Surge Current 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 | $^\circ\text{C/W}$ |

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 | 475 | 500 | 525 | mV |
| | | 850 | 900 | 950 | mV |
| I_R | Reverse Current @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ | 0.5 | | | mA |
| | | 20 | | | mA |
| C_T | Total Capacitance $V_R = 4.0\text{ V}, f = 1.0\text{ MHz}$ | 190 | | | pF |

Typical Characteristics

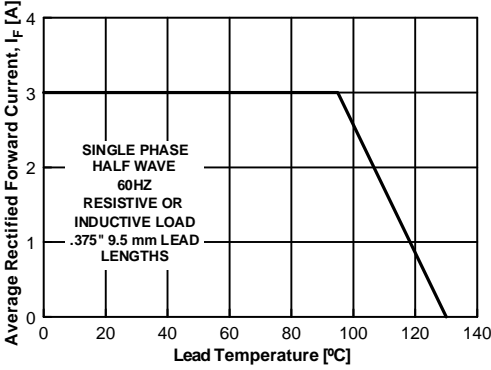


Figure 1. Forward Current Derating Curve

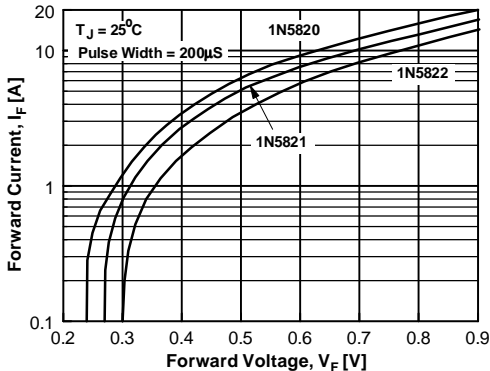


Figure 2. Forward Voltage Characteristics

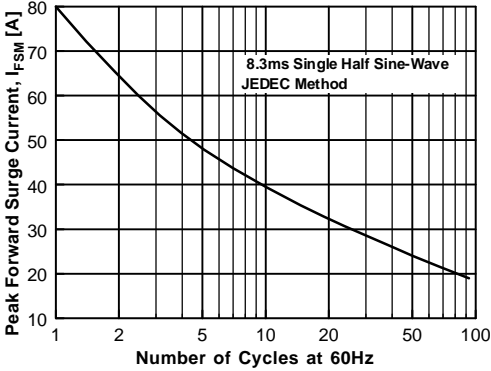


Figure 3. Non-Repetitive Surge Current

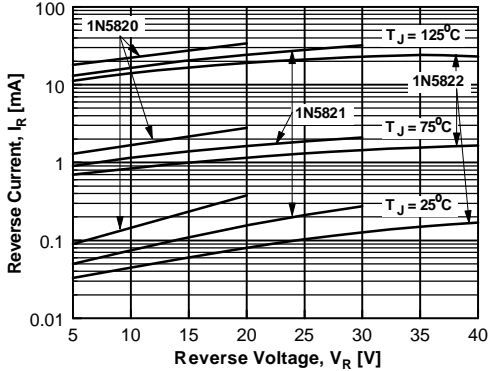


Figure 4. Reverse Current vs Reverse Voltage

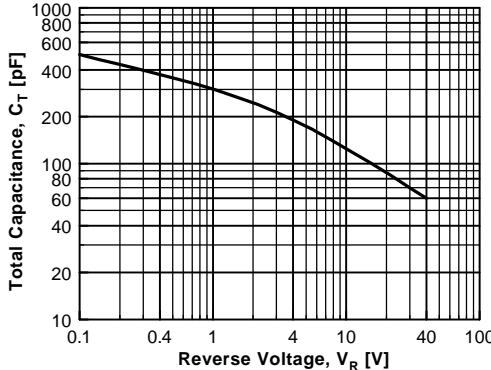


Figure 5. Total Capacitance

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