



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.



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	$^\circ\text{C}/\text{W}$

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

Typical Characteristics

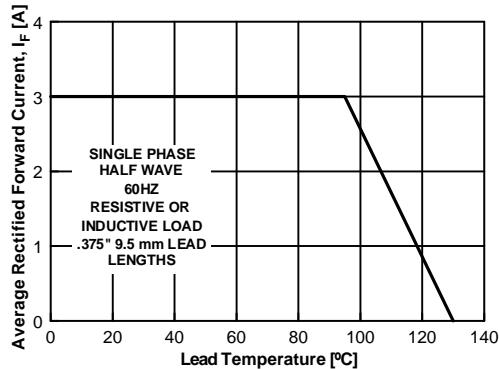


Figure 1. Forward Current Derating Curve

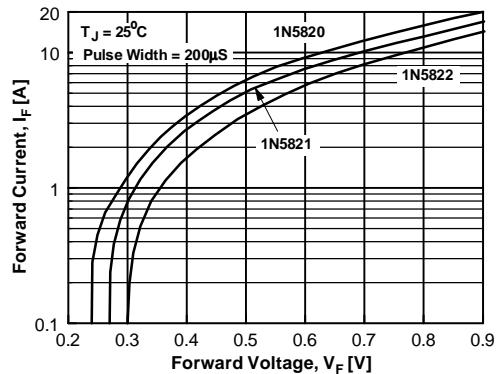


Figure 2. Forward Voltage Characteristics

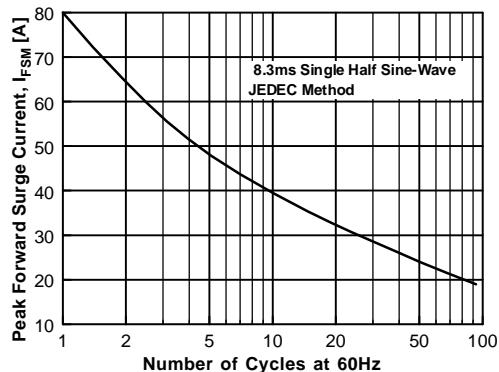


Figure 3. Non-Repetitive Surge Current

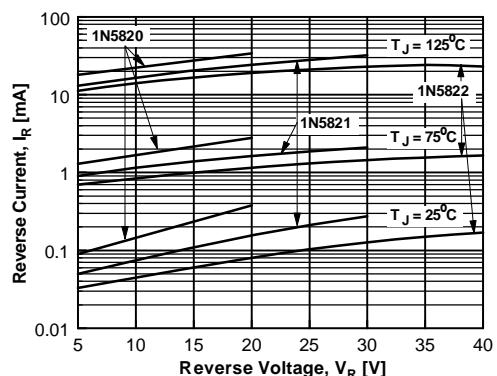


Figure 4. Reverse Current vs Reverse Voltage

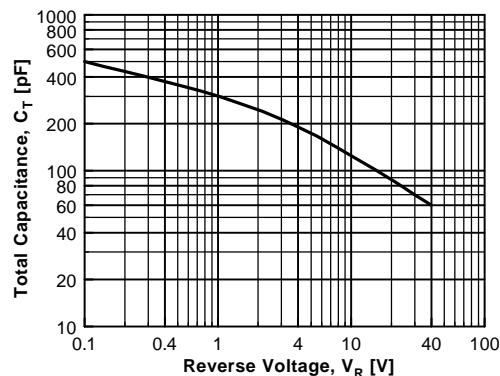


Figure 5. Total Capacitance

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