

1N5817 - 1N5819

Schottky Barrier Rectifier

Features

- 1.0 ampere operation at $T_A = 90^\circ\text{C}$ with no thermal runaway.
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.



DO-41 plastic case
 COLOR BAND DENOTES CATHODE

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

Symbol	Parameter	Value			Units
		1N5817	1N5818	1N5819	
V_{RRM}	Maximum Repetitive Reverse Voltage	20	30	40	V
$I_{F(AV)}$	Average Rectified Forward Current .375" lead length @ $T_A = 90^\circ\text{C}$	1.0			A
I_{FSM}	Non-repetitive Peak Surge Current 8.3 ms Single Half-Sine Wave	25			A
T_J, T_{STG}	Operating Junction and Storage 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	1.25	W
$R_{\theta JA}$	Maximum Thermal Resistance, Junction to Ambient	100	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	45	$^\circ\text{C}/\text{W}$

* Mounted on Cu-pad Size 5mm x 5mm on PCB

Electrical Characteristics (per diode)

Symbol	Parameter	Value			Units
		1N5817	1N5818	1N5819	
V_F	Forward Voltage @ 1.0 A	450	550	600	mV
	@ 3.0 A	750	875	900	mV
I_R	Reverse Current @ rated V_R $T_C = 25^\circ\text{C}$	0.5			mA
	$T_C = 100^\circ\text{C}$	10			mA
C_T	Total Capacitance $V_R = 4.0\text{ V}, f = 1.0\text{ MHz}$	110			pF

* Pulse Test: Pulse Width=300 μs , Duty Cycle=2%

Typical Performance Characteristics

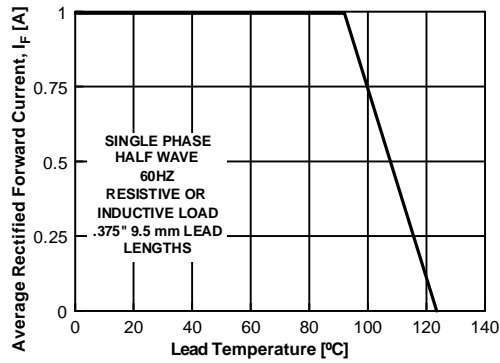


Figure 1. Forward Current Derating Curve

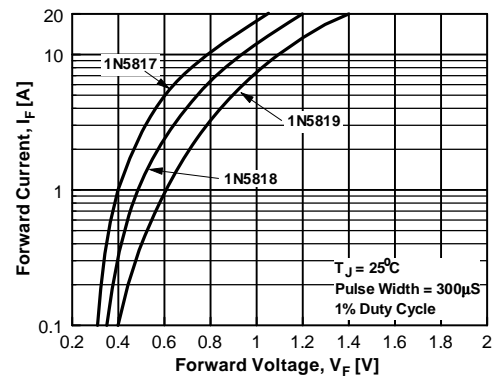


Figure 2. Forward Voltage Characteristics

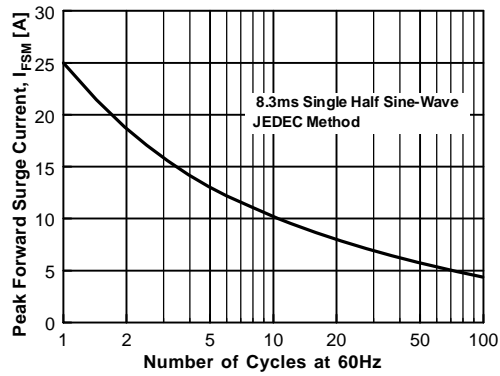


Figure 3. Non-Repetitive Surge Current

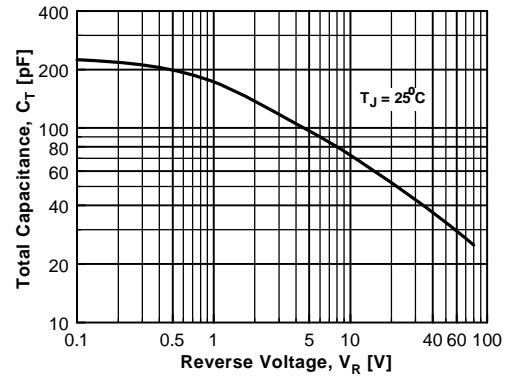






Figure 4. Total Capacitance



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