FAIRCHILD SEMICONDUCTOR®

November 2010

1N5817 - 1N5819
Schottky Barrier Rectifier

Features

- 1.0 ampere operation at T_A = 90°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°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°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			°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	°C/W
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	45	°C/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 @ 3.0 A	450 750	550 875	600 900	mV mV
I_R	Reverse Current @ rated V_R	T_C = 25 °C T_C = 100 °C	0.5 10			mA mA
C_T	Total Capacitance V_R = 4.0 V, f = 1.0 MHz		110			pF

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

Typical Performance Characteristics

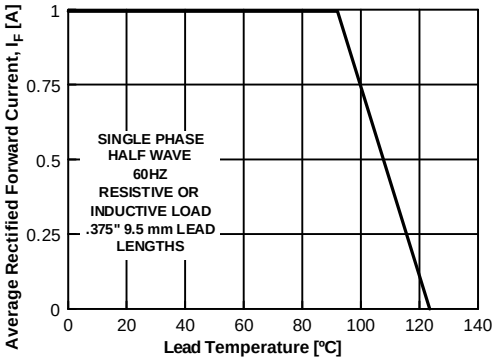

Figure 1. Forward Current Derating Curve

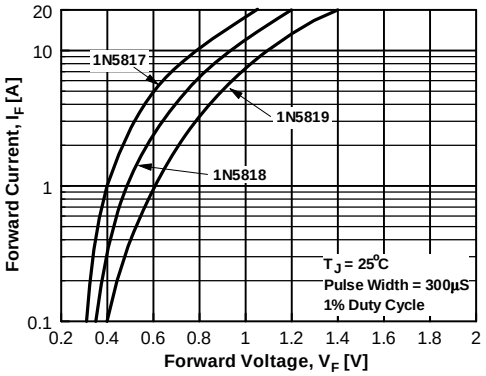

Figure 2. Forward Voltage Characteristics

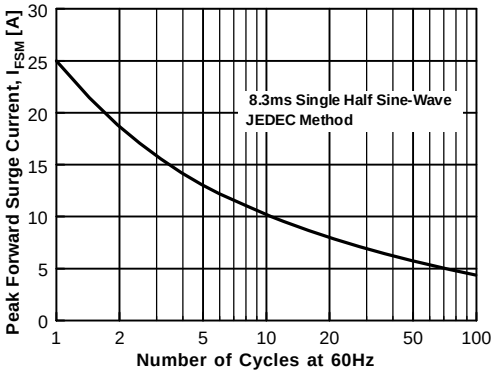

Figure 3. Non-Repetitive Surge Current

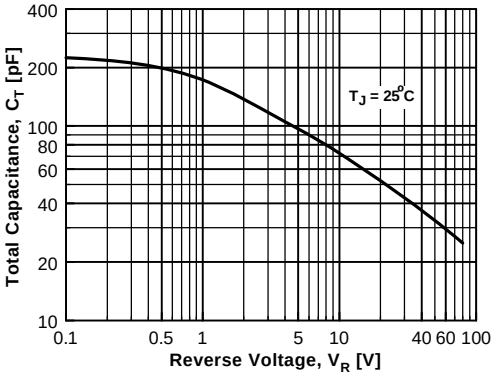

Figure 4. Total Capacitance

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