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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 @ 3.0 A | 450 | 550 | 600 | mV |
| | | 750 | 875 | 900 | mV |
| I_R | Reverse Current @ rated V_R $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$ | 0.5 | | | mA |
| | | 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

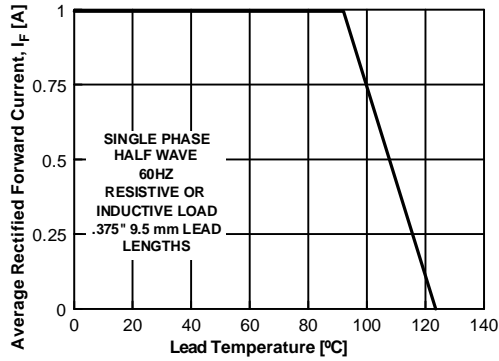


Figure 1. Forward Current Derating Curve

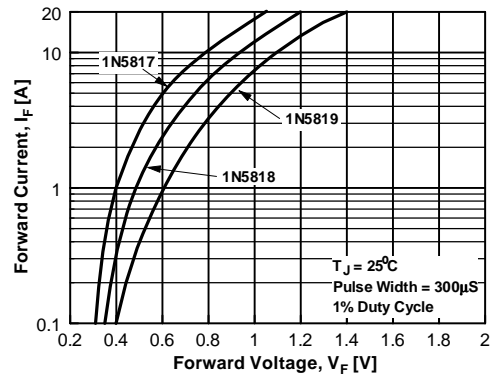


Figure 2. Forward Voltage Characteristics

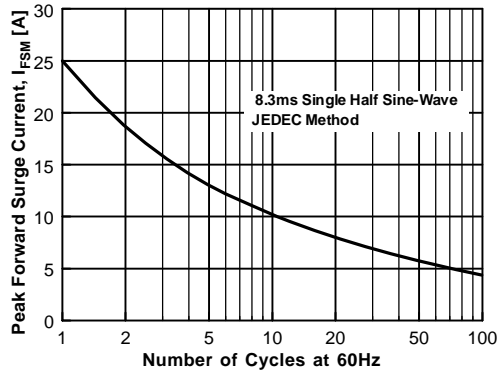


Figure 3. Non-Repetitive Surge Current

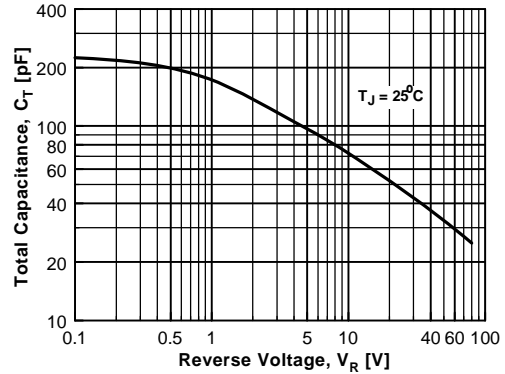


Figure 4. Total Capacitance



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