

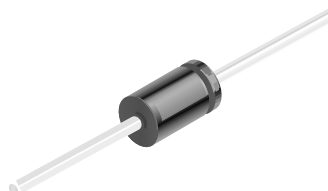


# 1N5817 - 1N5819

1N5817-1N5819

## 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

COLOR BAND DENOTES CATHODE

## Schottky Rectifiers

### 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<br>.375 " lead length @ $T_A = 90^\circ\text{C}$ | 1.0         |        |        | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave          | 25          |        |        | 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                       | 1.25  | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 80    | $^\circ\text{C/W}$ |

### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

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

# Typical Characteristics

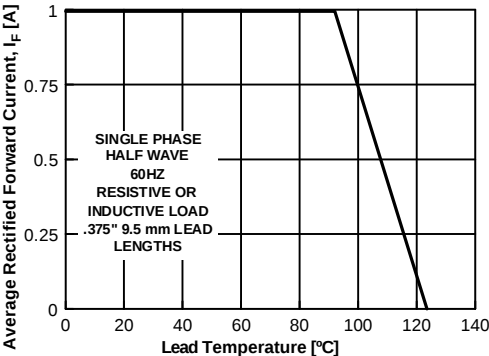


Figure 1. Forward Current Derating Curve

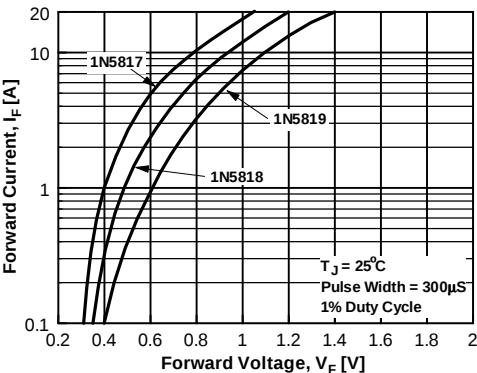


Figure 2. Forward Voltage Characteristics

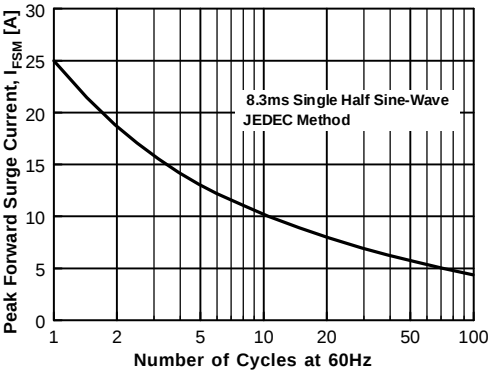


Figure 3. Non-Repetitive Surge Current

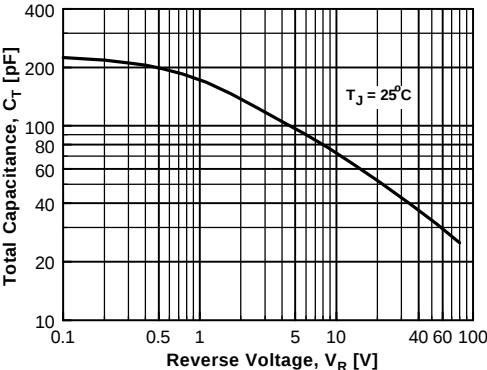


Figure 4. Total Capacitance

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| Bottomless <sup>TM</sup>          | FAST <sup>r</sup> <sup>TM</sup>  | OPTOPLANAR <sup>TM</sup>         | STAR*POWER <sup>TM</sup>     |                   |
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| DenseTrench <sup>TM</sup>         | GTO <sup>TM</sup>                | Power247 <sup>TM</sup>           | SuperSOT <sup>TM</sup> -6    |                   |
| DOME <sup>TM</sup>                | HiSeC <sup>TM</sup>              | PowerTrench <sup>®</sup>         | SuperSOT <sup>TM</sup> -8    |                   |
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