

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

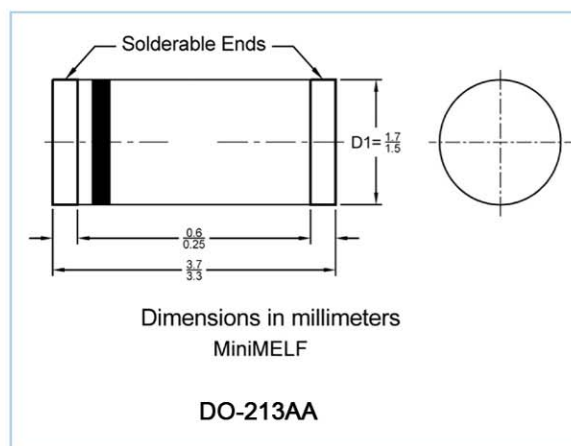
### LM5817 THRU LM5819

#### Features

- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Guard ring for overvoltage protection
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

#### Mechanical Data

- Case: MiniMELF (DO-213AA), molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any



#### Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified, single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%

| Parameter   | Symbols         | LM5817        | LM5818        | LM5819     | Units |
|---|-----------------|---------------|---------------|------------|-------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 20            | 30            | 40         | V     |
| Maximum RMS Voltage   | $V_{RMS}$       | 14            | 21            | 28         | V     |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 20            | 30            | 40         | V     |
| Maximum Average Forward Rectified Current   | $I_{F(AV)}$     | 1             |               |            | A     |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load(JEDEC methode) | $I_{FSM}$       | 25            |               |            | A     |
| Maximum Instantaneous Forward Voltage<br>at $I_F = 1$ A<br>at $I_F = 3$ A                         | $V_F$           | 0.45<br>0.75  | 0.55<br>0.875 | 0.6<br>0.9 | V     |
| Maximum Instantaneous Reverse Current at<br>Rated DC Blocking Voltage <sup>1)</sup>               | $I_R$           | 0.5<br>10     |               |            | mA    |
| Typical Junction Capacitance <sup>2)</sup>  | $C_J$           | 110           |               |            | pF    |
| Typical Thermal Resistance, Junction to Ambient <sup>3)</sup>                                     | $R_{\theta JA}$ | 75            |               |            | °C/W  |
| Typical Thermal Resistance, Junction to Terminal <sup>4)</sup>                                    | $R_{\theta JL}$ | 30            |               |            |       |
| Operating Junction Temperature Range  | $T_J$           | - 55 to + 125 |               |            | °C    |
| Storage Temperature Range   | $T_{stg}$       | - 55 to + 150 |               |            | °C    |

<sup>1)</sup> Pulse test: 300  $\mu$ s pulse width, 1% duty cycle

<sup>2)</sup> Measured at 1 MHz and reverse voltage of 4 V

<sup>3)</sup> Thermal resistance junction to ambient 0.24" X 0.24"(6 X 6 mm) copper pads to each terminals

<sup>4)</sup> Thermal resistance junction to terminal 0.24" X 0.24"(6 X 6 mm) copper pads to each terminals

FIG.1-FORWARD CURRENT DERATING CURVE

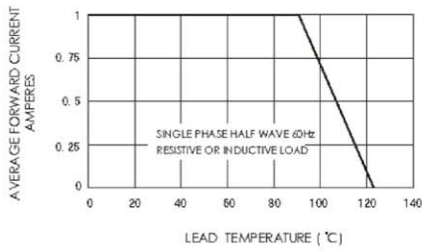


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

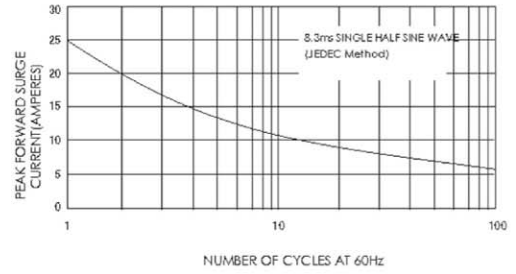


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

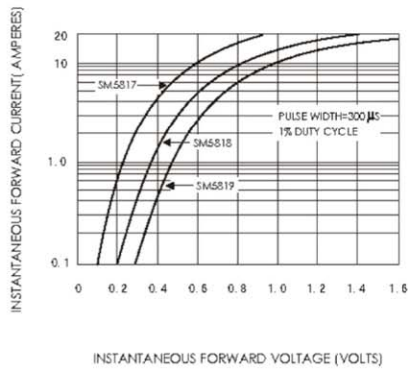


FIG.4-TYPICAL REVERSE CHARACTERISTICS

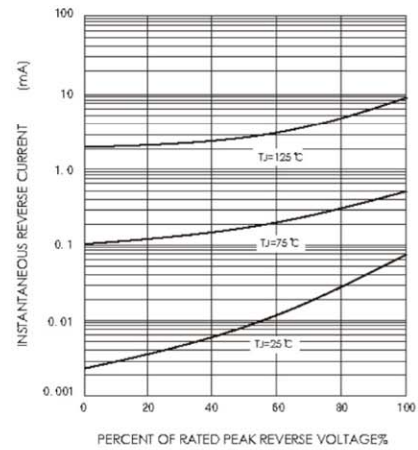


FIG.5-TYPICAL JUNCTION CAPACITANCE

