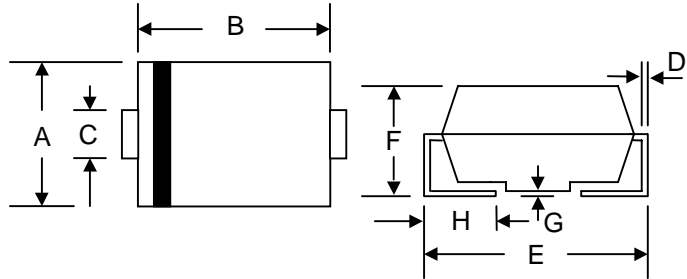


#### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications



#### Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version**

| SMB/DO-214AA         |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.94 |
| B                    | 4.06 | 4.57 |
| C                    | 1.96 | 2.21 |
| D                    | 0.15 | 0.31 |
| E                    | 5.00 | 5.59 |
| F                    | 2.00 | 2.62 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| All Dimensions in mm |      |      |

#### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Characteristic  | Symbol          | 5817SMJ     | 5818SMJ | 5819SMJ | Unit             |
|---|-----------------|-------------|---------|---------|------------------|
| Peak Repetitive Reverse Voltage   | $V_{RRM}$       |             |         |         |                  |
| Working Peak Reverse Voltage  | $V_{RWM}$       | 20          | 30      | 40      | V                |
| DC Blocking Voltage   | VR              |             |         |         |                  |
| RMS Reverse Voltage   | $V_{R(RMS)}$    | 14          | 21      | 28      | V                |
| Average Rectified Output Current (Note 1) @ $T_L = 75^\circ\text{C}$  | $I_O$           | 1.0         |         |         | A                |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 25          |         |         | A                |
| Forward Voltage @ $I_F = 1.0\text{A}$   | $V_{FM}$        | 0.55        |         |         | V                |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$     | $I_{RM}$        | 0.08<br>10  |         |         | mA               |
| Typical Junction Capacitance (Note 2)   | $C_j$           | 110         |         |         | pF               |
| Typical Thermal Resistance Junction to Lead (Note 1)  | $R_{\theta JL}$ | 60          |         |         | K/W              |
| Operating and Storage Temperature Range   | $T_j, T_{STG}$  | -55 to +150 |         |         | $^\circ\text{C}$ |

Note: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

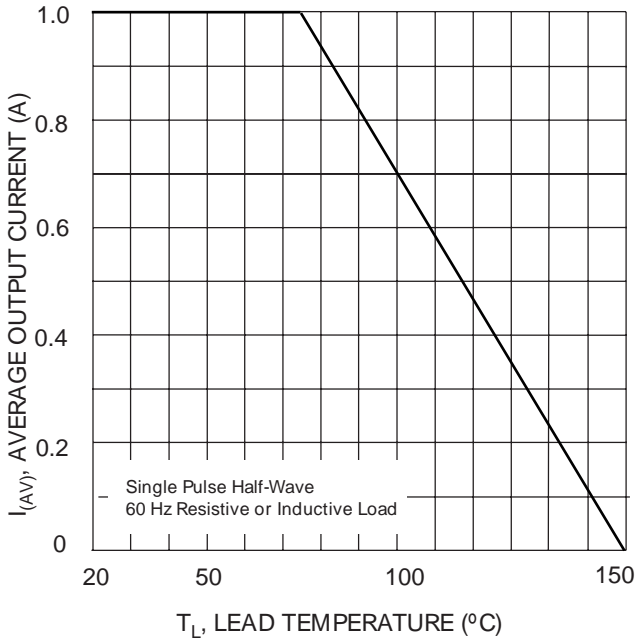


Fig. 1 Forward Current Derating Curve

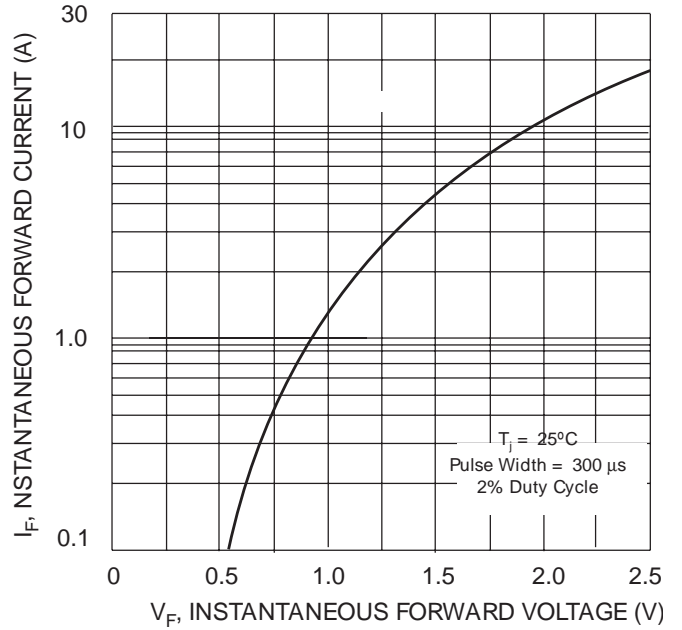


Fig. 2 Typical Forward Characteristics

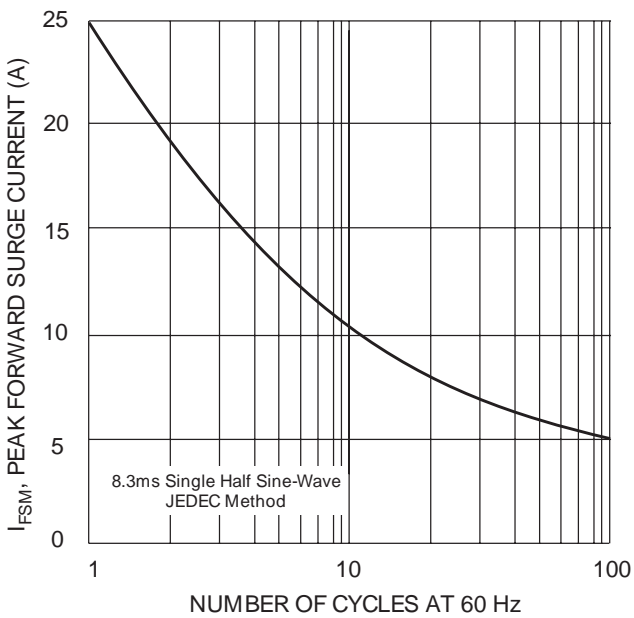


Fig. 3 Maximum Non-Repetitive Peak Fwd Surge Current

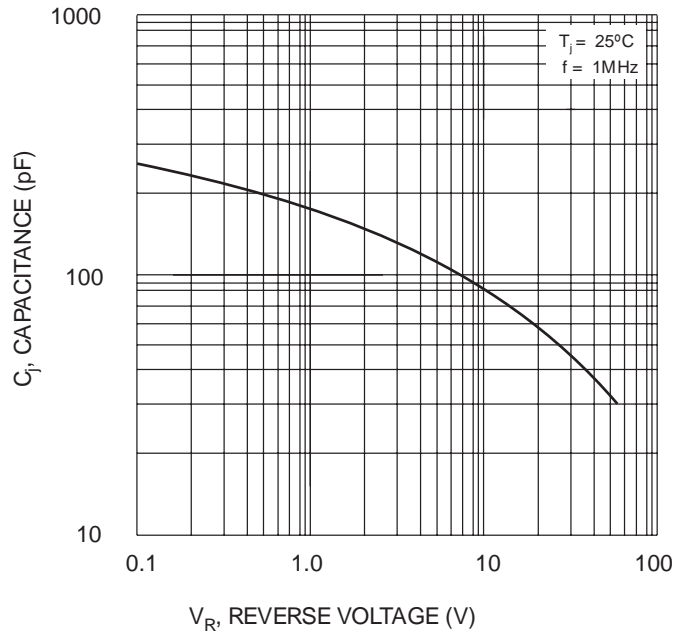


Fig. 4 Typical Junction Capacitance