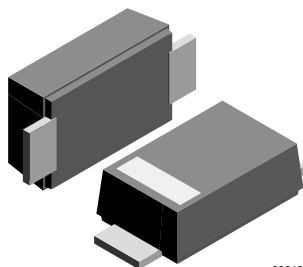
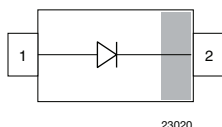


## Schottky Rectifier Surface-Mount

### eSMP® Series



SMF (DO-219AB)



### FEATURES

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- Oxide planar chip junction
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Meets JESD 201 class 2 whisker test
- Wave and reflow solderable
- AEC-Q101 qualified
- Compatible to SOD-123W package case outline or SOD-123F and SOD-123FL
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
**HALOGEN**  
**FREE**

### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** SMF (DO-219AB)

**Polarity:** color band denotes cathode end

**Weight:** approx. 15 mg

**Packaging codes / options:**

18/10K per 13" reel (8 mm tape), MOQ = 50K

08/3K per 7" reel (8 mm tape), MOQ = 30K

**Circuit configuration:** single

### PARTS TABLE

| PART   | ORDERING CODE          | MARKING | REMARKS       |
|--------|------------------------|---------|---------------|
| SL02-M | SL02-M-18 or SL02-M-08 | U2      | Tape and reel |
| SL03-M | SL03-M-18 or SL03-M-08 | U3      | Tape and reel |

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ °C}$ , unless otherwise specified)

| PARAMETER                                               | TEST CONDITION        | PART   | SYMBOL      | VALUE | UNIT |
|---------------------------------------------------------|-----------------------|--------|-------------|-------|------|
| Maximum repetitive peak reverse voltage                 |                       | SL02-M | $V_{RRM}$   | 20    | V    |
|                                                         |                       | SL03-M | $V_{RRM}$   | 30    | V    |
| Maximum RMS voltage                                     |                       | SL02-M | $V_{RMS}$   | 14    | V    |
|                                                         |                       | SL03-M | $V_{RMS}$   | 21    | V    |
| Maximum DC blocking voltage                             |                       | SL02-M | $V_{DC}$    | 20    | V    |
|                                                         |                       | SL03-M | $V_{DC}$    | 30    | V    |
| Maximum average forward rectified current               | $T_L = 109\text{ °C}$ |        | $I_{F(AV)}$ | 1.1   | A    |
| Peak forward surge current 8.3 ms single half sine-wave |                       |        | $I_{FSM}$   | 40    | A    |

### THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ °C}$ , unless otherwise specified)

| PARAMETER                                                 | TEST CONDITION | SYMBOL     | VALUE       | UNIT |
|-----------------------------------------------------------|----------------|------------|-------------|------|
| Thermal resistance junction to ambient air <sup>(1)</sup> |                | $R_{thJA}$ | 180         | K/W  |
| Maximum operating junction temperature                    |                | $T_j$      | 125         | °C   |
| Storage temperature range                                 |                | $T_{stg}$  | -55 to +150 | °C   |

#### Note

<sup>(1)</sup> Mounted on epoxy substrate with 3 mm x 3 mm Cu pads ( $\geq 40\text{ }\mu\text{m}$  thick)

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                                     |        |          |      |       |       |               |
|----------------------------------------------------------------------------------------------------------|-------------------------------------|--------|----------|------|-------|-------|---------------|
| PARAMETER                                                                                                | TEST CONDITION                      | PART   | SYMBOL   | MIN. | TYP.  | MAX.  | UNIT          |
| Instantaneous forward voltage                                                                            | $I_F = 0.5\text{ A}$ <sup>(1)</sup> | SL02-M | $V_F$    |      | 0.360 | 0.385 | V             |
|                                                                                                          |                                     | SL03-M | $V_F$    |      | 0.395 | 0.43  | V             |
| Typical instantaneous forward voltage                                                                    | $I_F = 1.1\text{ A}$                | SL02-M | $V_F$    |      | 0.420 |       | V             |
|                                                                                                          |                                     | SL03-M | $V_F$    |      | 0.450 |       | V             |
| Maximum DC reverse current at rated DC blocking voltage                                                  | $T_A = 25\text{ }^{\circ}\text{C}$  | SL02-M | $I_R$    |      |       | 250   | $\mu\text{A}$ |
|                                                                                                          | $T_A = 100\text{ }^{\circ}\text{C}$ | SL02-M | $I_R$    |      |       | 8     | mA            |
|                                                                                                          | $T_A = 25\text{ }^{\circ}\text{C}$  | SL03-M | $I_R$    |      |       | 130   | $\mu\text{A}$ |
|                                                                                                          | $T_A = 100\text{ }^{\circ}\text{C}$ | SL03-M | $I_R$    |      |       | 6     | mA            |
| Reverse recovery time                                                                                    |                                     | SL02-M | $t_{rr}$ |      |       | < 10  | ns            |
|                                                                                                          |                                     | SL03-M | $t_{rr}$ |      |       | < 10  | ns            |

**Note**

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

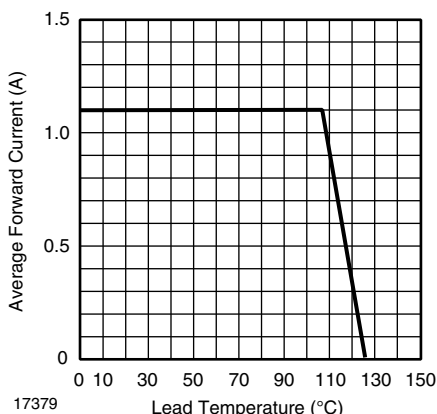
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Forward Current Derating Curve

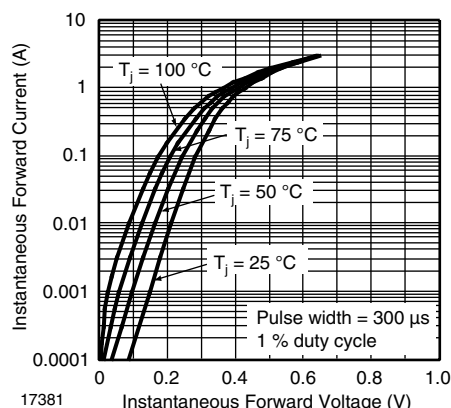


Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

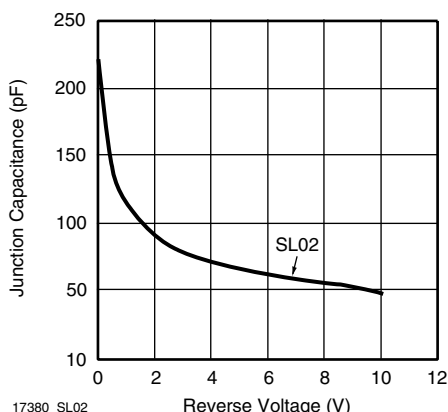


Fig. 2 - Typical Junction Capacitance

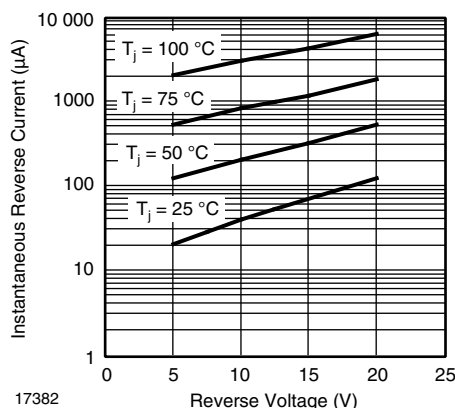


Fig. 4 - Typical Reverse Current Characteristics - SL02

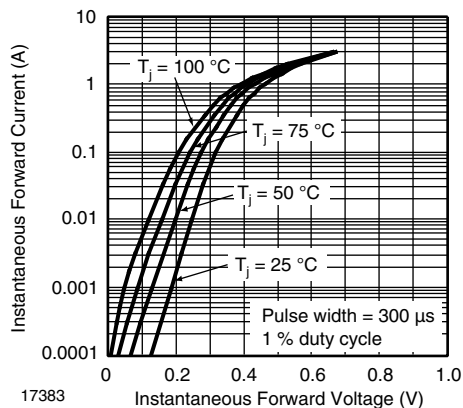


Fig. 5 - Typical Instantaneous Forward Characteristics - SL03

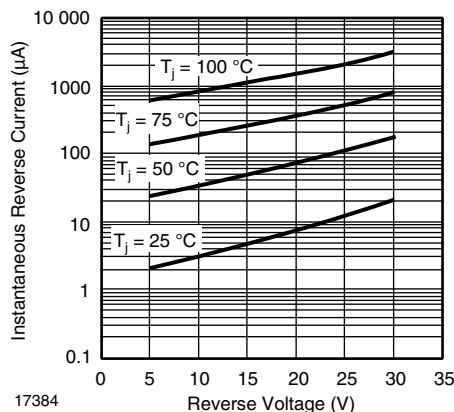
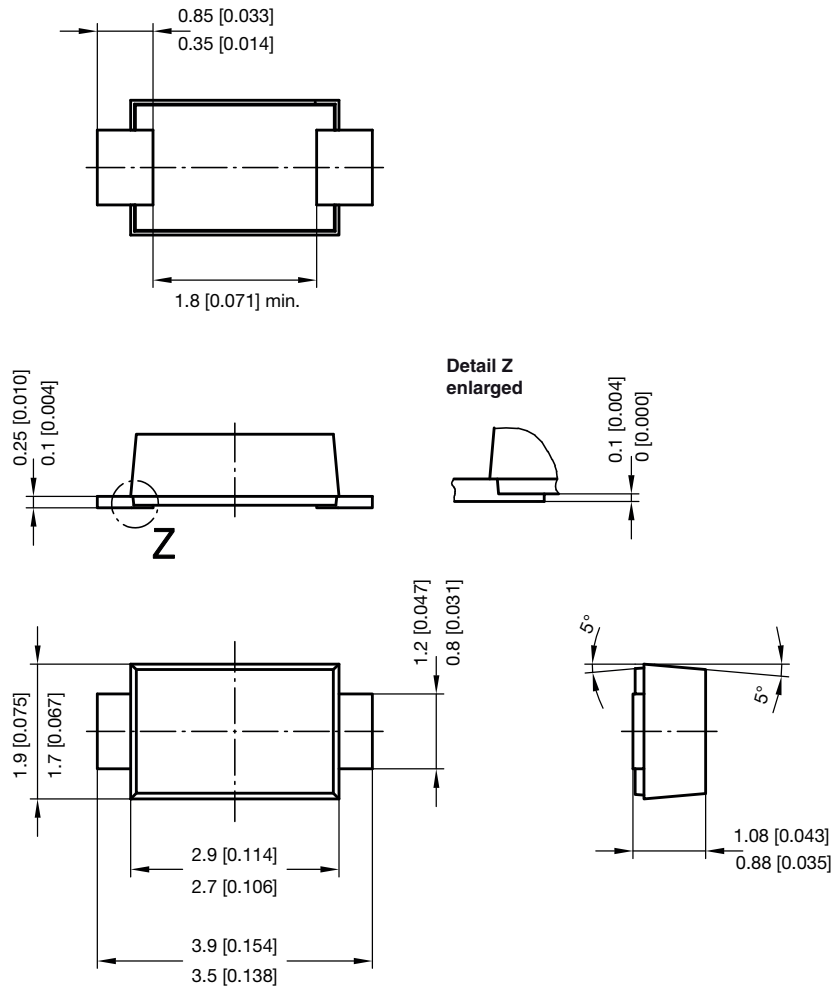
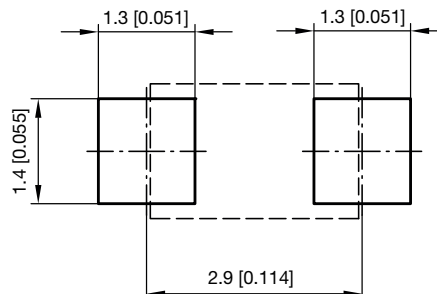


Fig. 6 - Typical Reverse Current Characteristics - SL03

**PACKAGE DIMENSIONS** in millimeters (inches): **SMF (DO-219AB)**


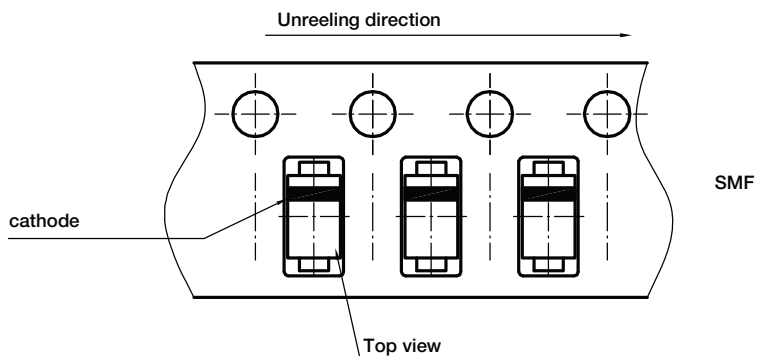
foot print recommendation:

Reflow soldering





**ORIENTATION IN CARRIER TAPE - SMF (DO-219AB)**



Document no.: S8-V-3717.02-003 (4)

Created - Date: 09. Feb. 2010

22670



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