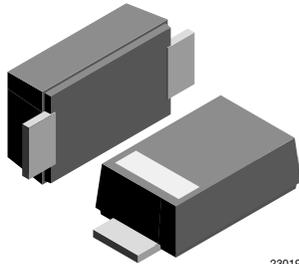
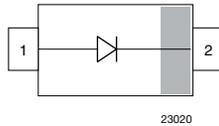


## Schottky Rectifier Surface-Mount

### eSMP® Series



SMF (DO-219AB)



23020

### FEATURES

- For surface mounted applications
- 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
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### DESIGN SUPPORT TOOLS

[click logo to get started](#)


### MECHANICAL DATA

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

**Polarity:** color band denotes cathode end

**Weight:** approx. 15 mg

**Packaging codes / options:**

GS18/10K per 13" reel (8 mm tape), 50K/box

GS08/3K per 7" reel (8 mm tape), 30K/box

**Circuit configuration:** single

| PARTS TABLE |                        |         |               |
|-------------|------------------------|---------|---------------|
| PART        | ORDERING CODE          | MARKING | REMARKS       |
| SL02        | SL02-GS18 or SL02-GS08 | S2      | Tape and reel |
| SL03        | SL03-GS18 or SL03-GS08 | S3      | 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 | $V_{RRM}$   | 20    | V    |
|   |                       | SL03 | $V_{RRM}$   | 30    | V    |
| Maximum RMS voltage   |                       | SL02 | $V_{RMS}$   | 14    | V    |
|   |                       | SL03 | $V_{RMS}$   | 21    | V    |
| Maximum DC blocking voltage   |                       | SL02 | $V_{DC}$    | 20    | V    |
|   |                       | SL03 | $V_{DC}$    | 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)



| ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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 | $V_F$    |      | 0.360 | 0.385 | V             |
|   |                                     | SL03 | $V_F$    |      | 0.395 | 0.43  | V             |
| Typical instantaneous forward voltage   | $I_F = 1.1\text{ A}$                | SL02 | $V_F$    |      | 0.420 |       | V             |
|   |                                     | SL03 | $V_F$    |      | 0.450 |       | V             |
| Maximum DC reverse current at rated DC blocking voltage   | $T_A = 25\text{ }^{\circ}\text{C}$  | SL02 | $I_R$    |      |       | 250   | $\mu\text{A}$ |
|   | $T_A = 100\text{ }^{\circ}\text{C}$ | SL02 | $I_R$    |      |       | 8     | mA            |
|   | $T_A = 25\text{ }^{\circ}\text{C}$  | SL03 | $I_R$    |      |       | 130   | $\mu\text{A}$ |
|   | $T_A = 100\text{ }^{\circ}\text{C}$ | SL03 | $I_R$    |      |       | 6     | mA            |
| Reverse recovery time   |                                     | SL02 | $t_{rr}$ |      |       | < 10  | ns            |
|   |                                     | SL03 | $t_{rr}$ |      |       | < 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)

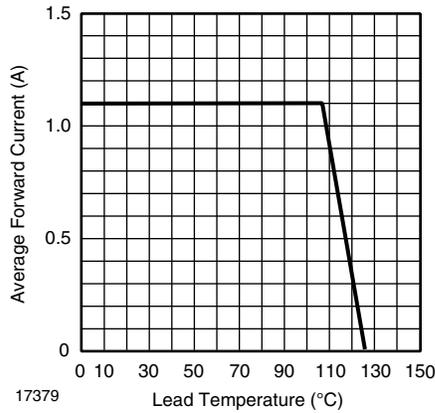


Fig. 1 - Forward Current Derating Curve

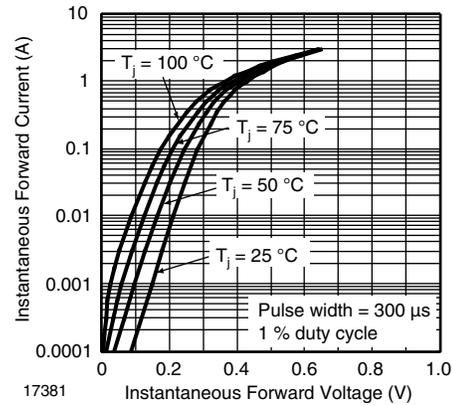


Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

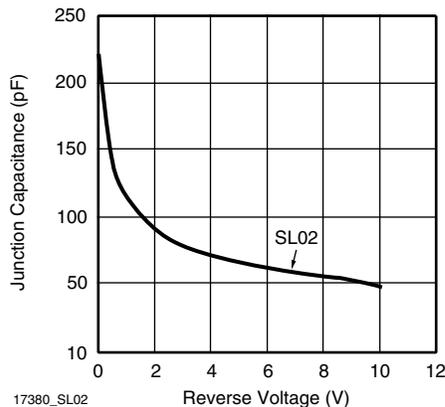


Fig. 2 - Typical Junction Capacitance

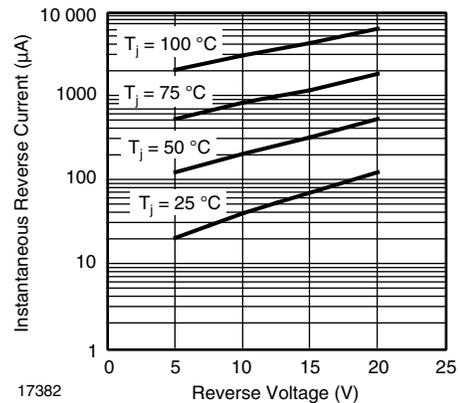


Fig. 4 - Typical Reverse Current Characteristics - SL02

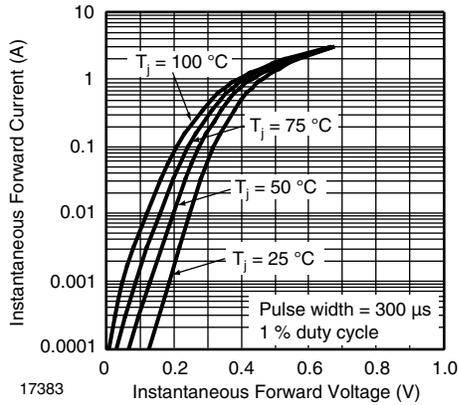


Fig. 5 - Typical Instantaneous Forward Characteristics - SL03

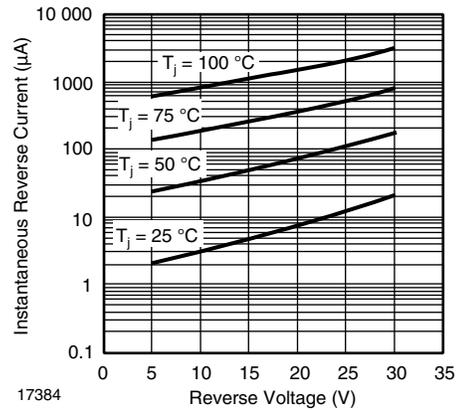
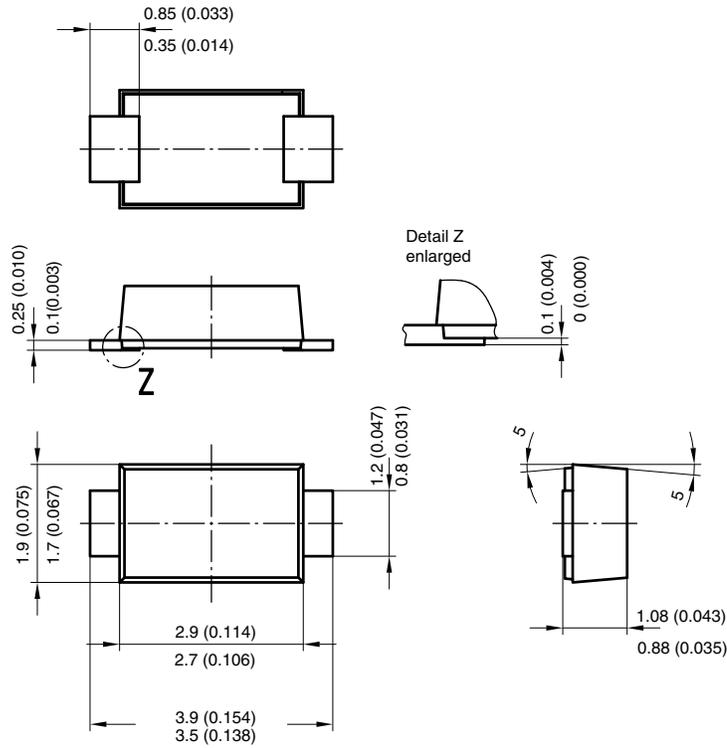
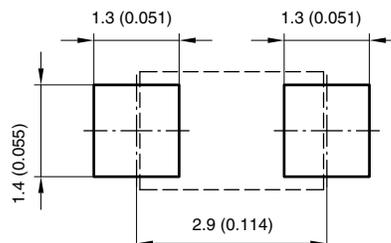


Fig. 6 - Typical Reverse Current Characteristics - SL03

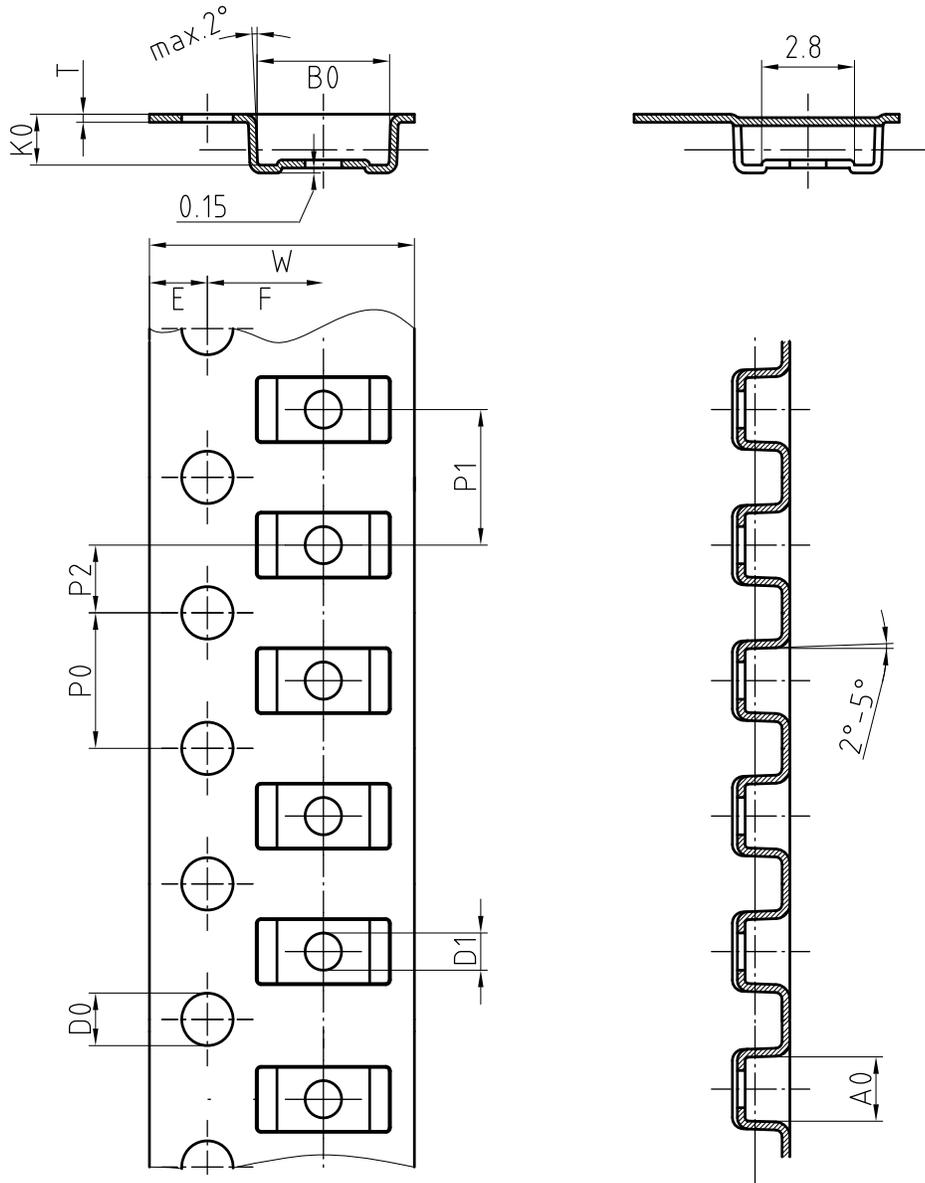
**PACKAGE DIMENSIONS** in millimeters (inches): **SMF (DO-219AB)**



Foot print recommendation:



Created - Date: 15. February 2005  
 Rev. 3 - Date: 13. March 2007  
 Document no.: S8-V-3915.01-001 (4)  
 17247

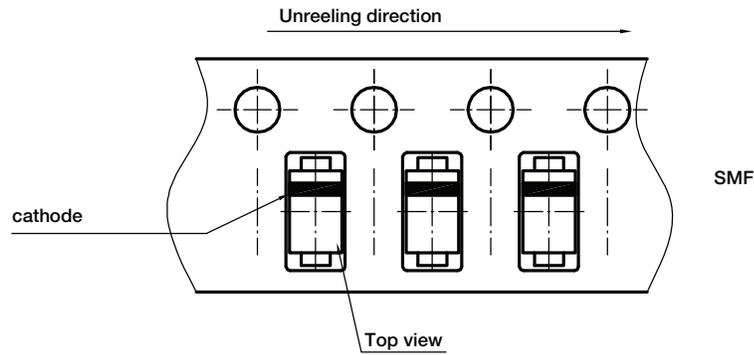
**BLISTERTAPE DIMENSION** in millimeters: **SMF (DO-219AB)**


| Mat: | A0  | B0  | K0  | W   | T     | P0  | P2  | P1  | D0  | D1 | E    | F   |
|------|-----|-----|-----|-----|-------|-----|-----|-----|-----|----|------|-----|
| PS   | 1.9 | 4.0 | 1.5 | 8.0 | 0.235 | 4.0 | 2.0 | 4.0 | 1.5 | 1  | 1.75 | 3.5 |

Document-No.: S8-V-3717.02-001 (3)

18513

**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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