

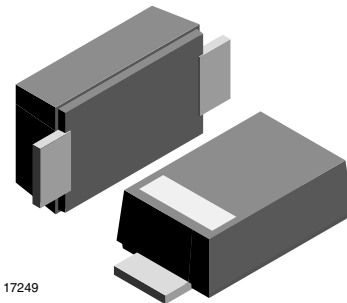
## Small Signal Schottky Diodes

### Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- High temperature soldering: 260 °C/10 s at terminals
- Wave and reflow solderable
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



**RoHS**  
COMPLIANT



17249

### Mechanical Data

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

**Polarity:** color band denotes cathode end

**Weight:** approx. 15 mg

#### Packaging codes/options:

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

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

### 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 |
| SL04 | SL04-GS18 or SL04-GS08 | S4      | Tape and reel |

### Absolute Maximum Ratings

T<sub>amb</sub> = 25 °C, unless otherwise specified

| Parameter  | Test condition           | Part | Symbol             | Value | Unit |
|--|--------------------------|------|--------------------|-------|------|
| Maximum repetitive peak reverse voltage                    |                          | SL02 | V <sub>RRM</sub>   | 20    | V    |
|  |                          | SL03 | V <sub>RRM</sub>   | 30    | V    |
|  |                          | SL04 | V <sub>RRM</sub>   | 40    | V    |
| Maximum RMS voltage  |                          | SL02 | V <sub>RMS</sub>   | 14    | V    |
|  |                          | SL03 | V <sub>RMS</sub>   | 21    | V    |
|  |                          | SL04 | V <sub>RMS</sub>   | 28    | V    |
| Maximum DC blocking voltage                                |                          | SL02 | V <sub>DC</sub>    | 20    | V    |
|  |                          | SL03 | V <sub>DC</sub>    | 30    | V    |
|  |                          | SL04 | V <sub>DC</sub>    | 40    | V    |
| Maximum average forward rectified current                  | T <sub>tp</sub> = 109 °C |      | I <sub>F(AV)</sub> | 1.1   | A    |
| Peak forward surge current<br>8.3 ms single half sine-wave |                          |      | I <sub>FSM</sub>   | 40    | A    |

## Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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         | $^{\circ}\text{C}$ |
| Storage temperature range                                |                | $T_{stg}$  | - 55 to 150 | $^{\circ}\text{C}$ |

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             |
|   |                                     | SL04 | $V_F$  |     | 0.450 | 0.51  | V             |
| Typical instantaneous forward voltage                   | $I_F = 1.1\text{ A}$                | SL02 | $V_F$  |     | 0.420 |       | V             |
|   |                                     | SL03 | $V_F$  |     | 0.450 |       | V             |
|   |                                     | SL04 | $V_F$  |     | 0.530 |       | 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            |
|   | $T_A = 25\text{ }^{\circ}\text{C}$  | SL04 | $I_R$  |     |       | 20    | $\mu\text{A}$ |
|   | $T_A = 100\text{ }^{\circ}\text{C}$ | SL04 | $I_R$  |     |       | 6     | mA            |

Note:

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

## Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

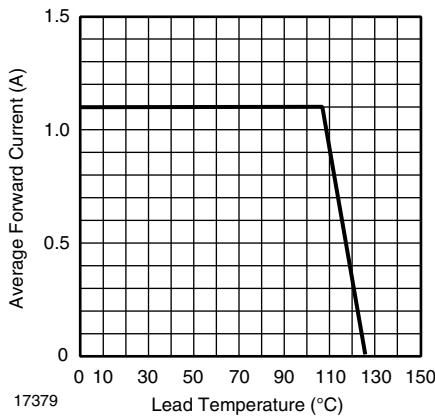


Figure 1. Forward Current Derating Curve

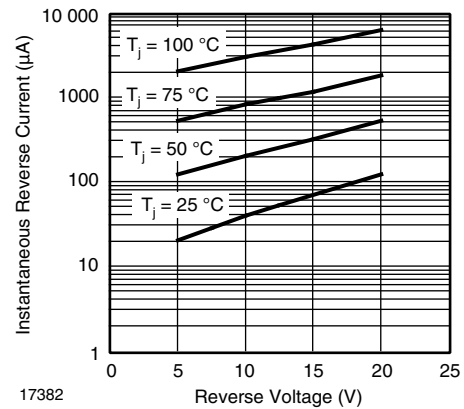


Figure 4. Typical Reverse Current Characteristics - SL02

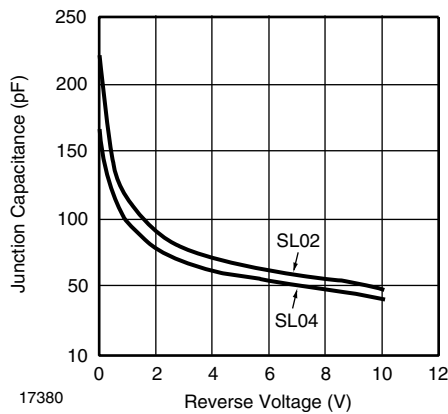


Figure 2. Typical Junction Capacitance

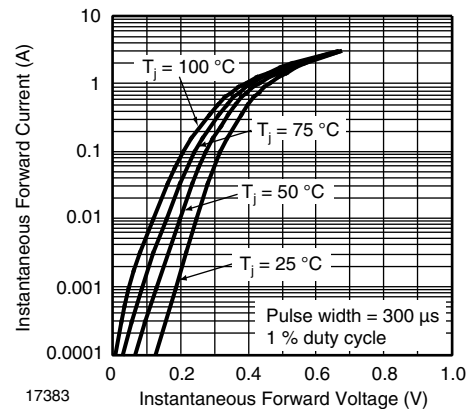


Figure 5. Typical Instantaneous Forward Characteristics - SL03

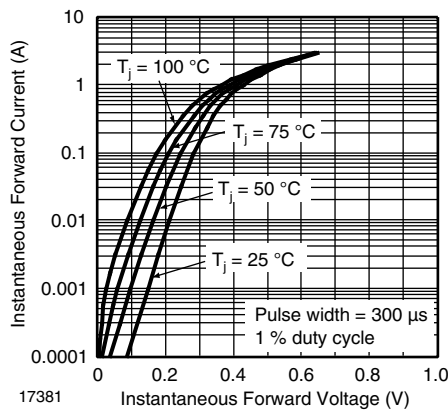


Figure 3. Typical Instantaneous Forward Characteristics - SL02

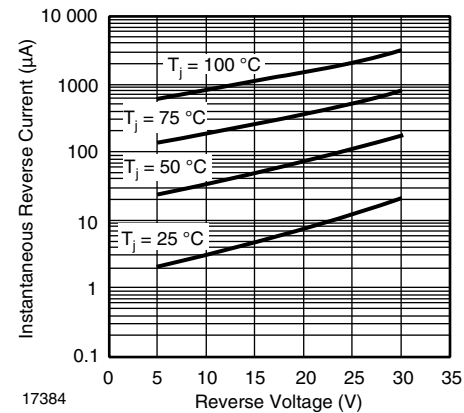
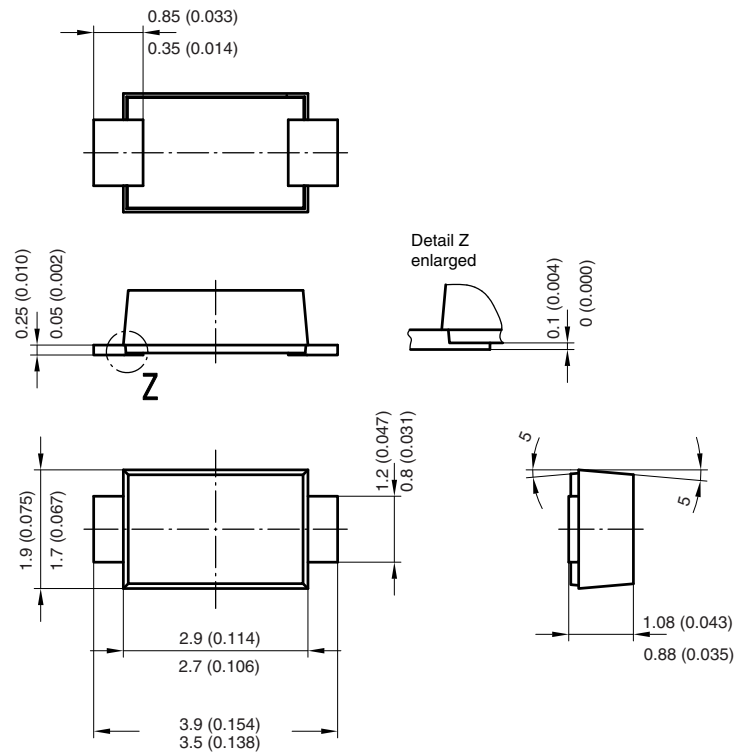
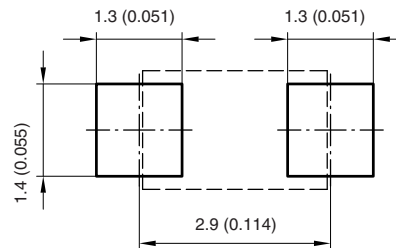


Figure 6. Typical Reverse Current Characteristics - SL03

## Package Dimensions in millimeters (inches): DO-219AB

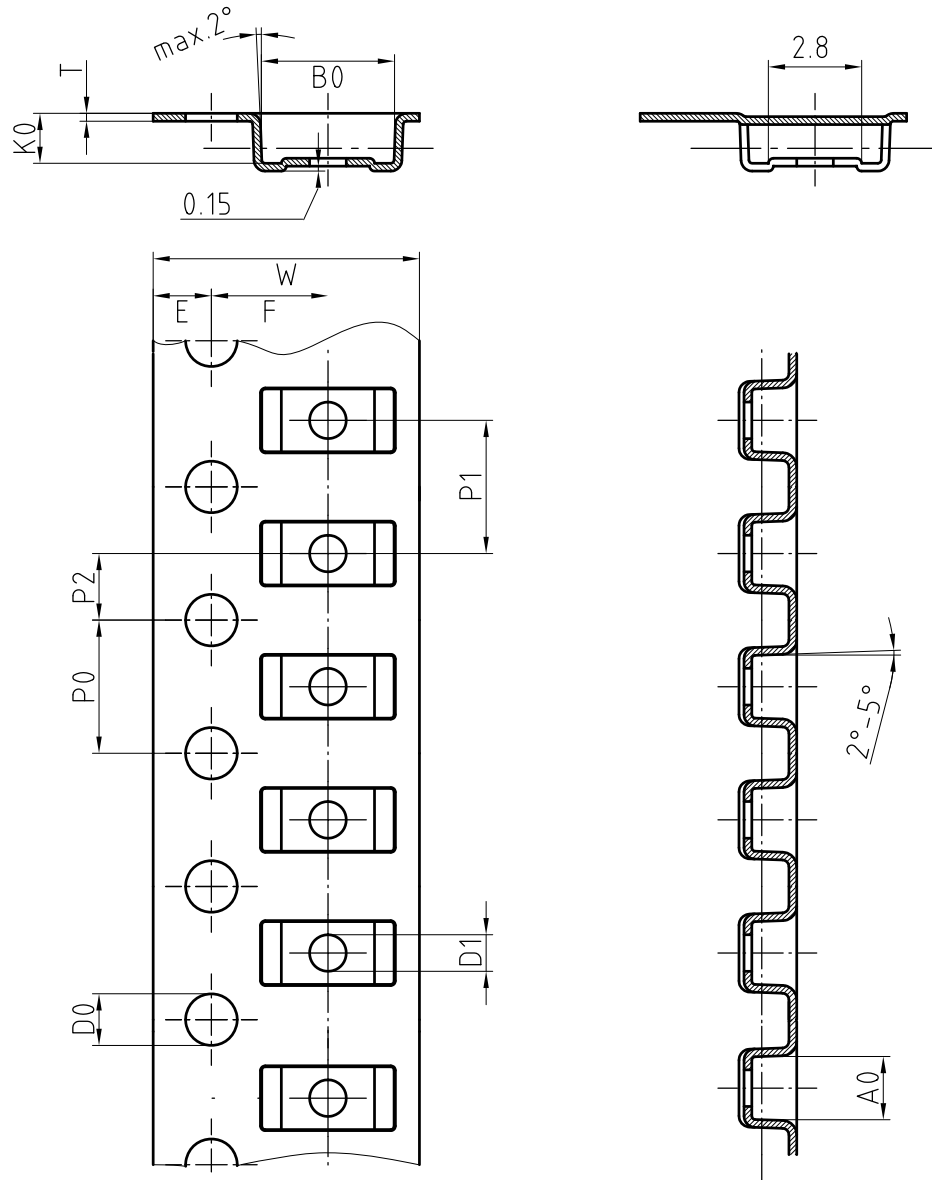


Foot print recommendation:



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

## Blisertape Dimensions for SMF in millimeters



| 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)

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