

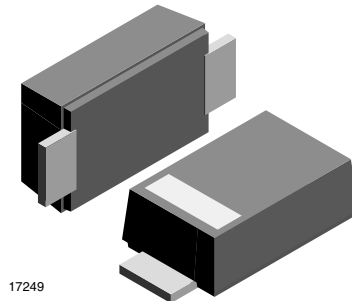
Small Signal Switching Diode, High Voltage

Features

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- 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: band denotes cathode end

Weight: approx. 15 mg

Packaging codes/options:

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

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

Parts Table

| Part | Ordering code | Marking | Remarks |
|------|------------------------|---------|---------------|
| S07B | S07B-GS18 or S07B-GS08 | SB | Tape and reel |
| S07D | S07D-GS18 or S07D-GS08 | SD | Tape and reel |
| S07G | S07G-GS18 or S07G-GS08 | SG | Tape and reel |
| S07J | S07J-GS18 or S07J-GS08 | SJ | Tape and reel |
| S07M | S07M-GS18 or S07M-GS08 | SM | Tape and reel |

Absolute Maximum Ratings

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

| Parameter | Test condition | Part | Symbol | Value | Unit |
|---|--|------|-------------|-------|------|
| Maximum repetitive peak reverse voltage | | S07B | V_{RRM} | 100 | V |
| | | S07D | V_{RRM} | 200 | V |
| | | S07G | V_{RRM} | 400 | V |
| | | S07J | V_{RRM} | 600 | V |
| | | S07M | V_{RRM} | 1000 | V |
| Maximum RMS voltage | | S07B | V_{RMS} | 70 | V |
| | | S07D | V_{RMS} | 140 | V |
| | | S07G | V_{RMS} | 280 | V |
| | | S07J | V_{RMS} | 420 | V |
| | | S07M | V_{RMS} | 700 | V |
| Maximum DC blocking voltage | | S07B | V_{DC} | 100 | V |
| | | S07D | V_{DC} | 200 | V |
| | | S07G | V_{DC} | 400 | V |
| | | S07J | V_{DC} | 600 | V |
| | | S07M | V_{DC} | 1000 | V |
| Maximum average forward rectified current | $T_{tp} = 75\text{ }^{\circ}\text{C}^{1)}$ | | $I_{F(AV)}$ | 1.5 | A |
| | $T_A = 65\text{ }^{\circ}\text{C}^{1)}$ | | $I_{F(AV)}$ | 0.7 | A |
| Peak forward surge current 8.3 ms single half sine-wave | $T_L = 25\text{ }^{\circ}\text{C}$ | | I_{FSM} | 25 | A |

Note:

¹⁾ Averaged over any 20 ms period

Thermal Characteristics

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

| Parameter | Test condition | Symbol | Value | Unit |
|--|----------------|----------------|---------------|--------------------|
| Thermal resistance junction to ambient air ¹⁾ | | R_{thJA} | 180 | K/W |
| Operating junction and storage temperature range | | T_J, T_{STG} | - 55 to + 150 | $^{\circ}\text{C}$ |

Note:

¹⁾ Mounted on epoxy substrate with 3 mm x 3 mm CU pads (≥ 40 mm thick)

Electrical Characteristics

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

| Parameter | Test condition | Symbol | Min. | Typ. | Max. | Unit |
|---|--|----------|------|------|------|---------------|
| Maximum instantaneous forward voltage | 1 A ¹⁾ | V_F | | | 1.1 | V |
| Maximum DC reverse current at rated DC blocking voltage | $T_A = 25\text{ }^{\circ}\text{C}$ | I_R | | | 10 | μA |
| | $T_A = 125\text{ }^{\circ}\text{C}$ | I_R | | | 50 | μA |
| Reverse recovery time | $I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{rr} = 0.25\text{ A}$ | t_{rr} | | | 1.8 | μs |
| Typical capacitance at 4 V, MHz | | C_j | | 4 | | pF |

Note:

¹⁾ Pulse test: 300 μ pulse width, 1 % duty cycle

Typical Characteristics

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

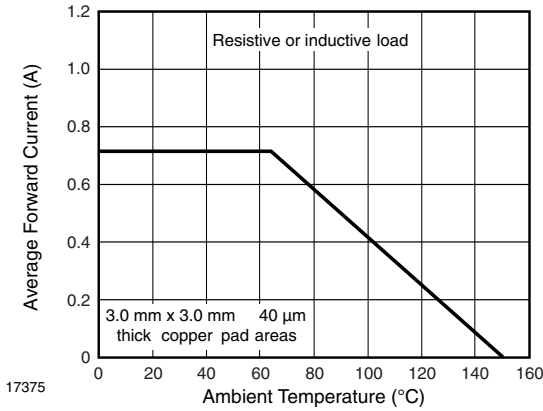


Figure 1. Forward Current Derating Curve

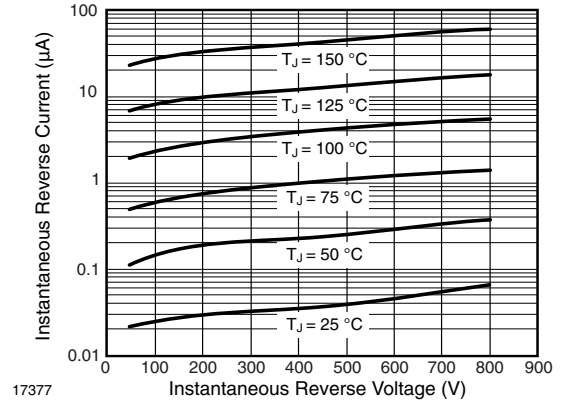


Figure 3. Typical Instantaneous Reverse Characteristics

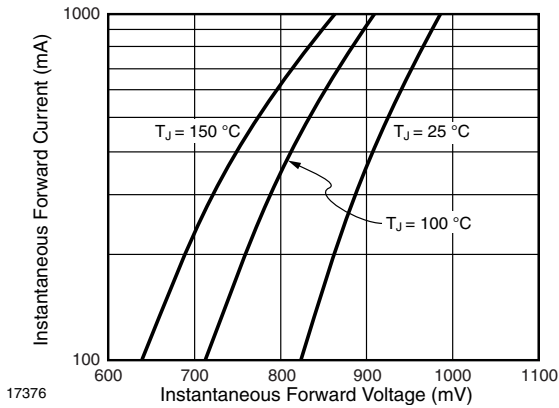


Figure 2. Typical Instantaneous Forward Characteristics

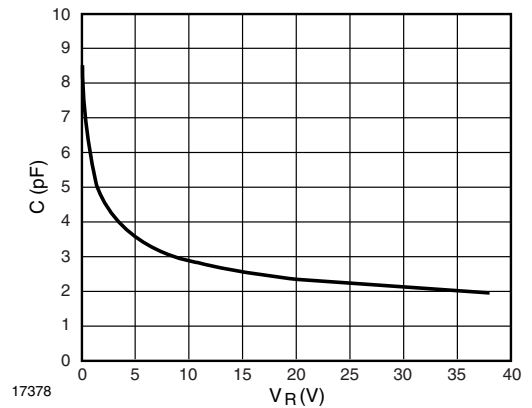


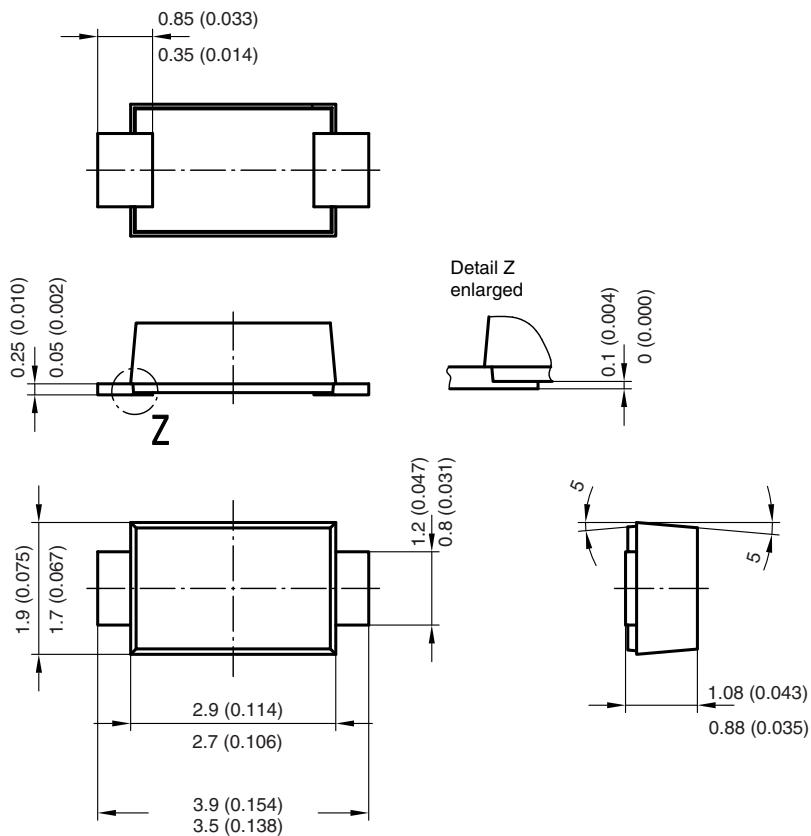
Figure 4. Capacitance vs. Reverse Voltage

S07B, S07D, S07G, S07J, S07M

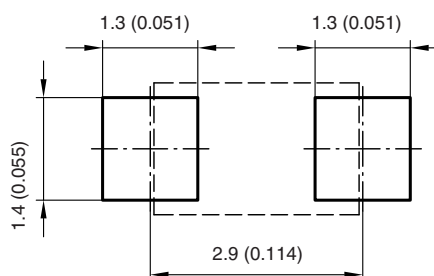


Vishay Semiconductors

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

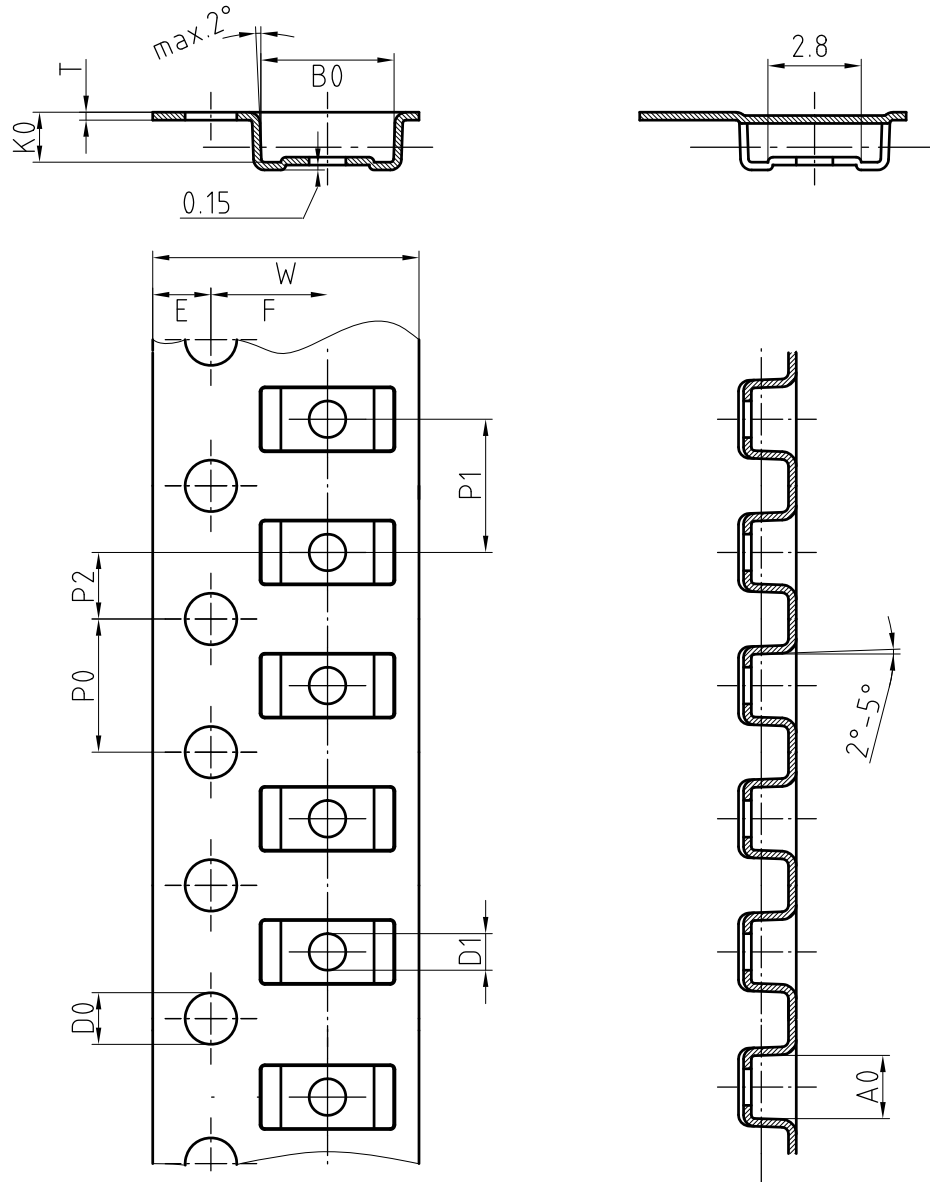


Foot print recommendation:



Created - Date: 15. February 2005
Rev. 3 - Date: 13. March 2007
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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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