SD101AWS-V/101BWS-V/101CWS-V

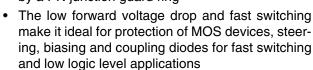


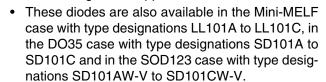
Vishay Semiconductors

Small Signal Schottky Diodes

Features

- For general purpose applications
- The SD101 series is a Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring





- · Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC





Mechanical Data

Case: SOD323 Plastic case Weight: approx. 4.3 mg **Packaging Codes/Options:**

GS18/10 k per 13" reel (8 mm tape), 10 k/box GS08/3 k per 7" reel (8 mm tape), 15 k/box

Parts Table

| Part | Ordering code | Type Marking | Remarks |
|------------|------------------------------------|--------------|---------------|
| SD101AWS-V | SD101AWS-V-GS18 or SD101AWS-V-GS08 | SA | Tape and Reel |
| SD101BWS-V | SD101BWS-V-GS18 or SD101BWS-V-GS08 | SB | Tape and Reel |
| SD101CWS-V | SD101CWS-V-GS18 or SD101CWS-V-GS08 | SC | Tape and Reel |

Absolute Maximum Ratings

 T_{amb} = 25 °C, unless otherwise specified

| Parameter | Test condition | Part | Symbol | Value | Unit |
|---|-------------------|------------|------------------|-------------------|------|
| Peak inverse voltage | | SD101AWS-V | V_{RRM} | 60 | V |
| | | SD101BWS-V | V _{RRM} | 50 | V |
| | | SD101CWS-V | V _{RRM} | 40 | V |
| Power dissipation (Infinite Heat Sink) | | | P _{tot} | 150 ¹⁾ | mW |
| Forward continuous current | | | I _F | 30 | mA |
| Maximum single cycle surge | 10 μs square wave | | I _{FSM} | 2 | Α |

¹⁾ Valid provided that electrodes are kept at ambient temperature

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SD101AWS-V/101BWS-V/101CWS-V

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Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

| Parameter | Test condition | Symbol | Value | Unit |
|--|----------------|------------------|-------------------|------|
| Thermal resistance junction to ambient air | | R_{thJA} | 650 ¹⁾ | K/W |
| Junction temperature | | T _j | 125 ¹⁾ | °C |
| Storage temperature range | | T _{stg} | - 65 to + 150 | °C |

¹⁾ Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

| Parameter | Test condition | Part | Symbol | Min | Тур. | Max | Unit |
|---------------------------|---------------------------------|------------|-------------------|-----|------|------|------|
| Reverse breakdown voltage | I _R = 10 μA | SD101AWS-V | V _(BR) | 60 | | | V |
| | | SD101BWS-V | V _(BR) | 50 | | | V |
| | | SD101CWS-V | V _(BR) | 40 | | | V |
| Leakage current | V _R = 50 V | SD101AWS-V | I _R | | | 200 | nA |
| | V _R = 40 V | SD101BWS-V | I _R | | | 200 | nA |
| | V _R = 30 V | SD101CWS-V | I _R | | | 200 | nA |
| Forward voltage drop | I _F = 1 mA | SD101AWS-V | V_{F} | | | 410 | mV |
| | | SD101BWS-V | V_{F} | | | 400 | mV |
| | | SD101CWS-V | V_{F} | | | 390 | mV |
| | I _F = 15 mA | SD101AWS-V | V_{F} | | | 1000 | mV |
| | | SD101BWS-V | V_{F} | | | 950 | mV |
| | | SD101CWS-V | V_{F} | | | 900 | mV |
| Junction capacitance | V _R = 0 V, f = 1 MHz | SD101AWS-V | C _D | | | 2.0 | ns |
| | | SD101BWS-V | C _D | | | 2.1 | ns |
| | | SD101CWS-V | C _D | | | 2.2 | ns |
| Reverse recovery time | $I_F = I_R = 5 \text{ mA},$ | | t _{rr} | | | 1 | ns |
| | recover to 0.1 I _R | | | | | | |

Typical Characteristics

 T_{amb} = 25 °C, unless otherwise specified

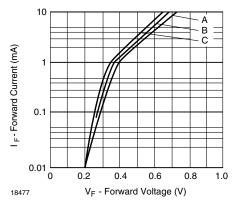


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

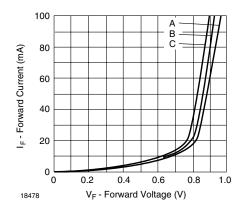


Figure 2. Typical Forward Conduction Curve





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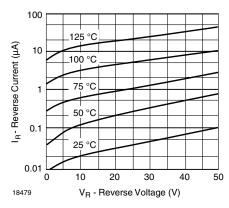


Figure 3. Typical Variation of Reverse Current at Various Temperatures

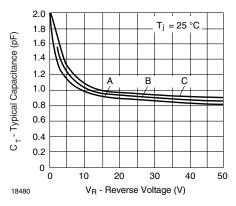
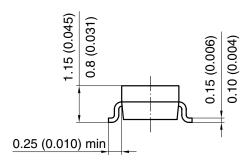
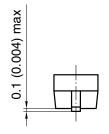
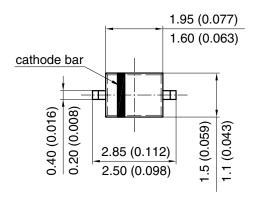


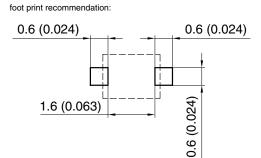
Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage

Package Dimensions in mm (Inches): SOD323









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SD101AWS-V/101BWS-V/101CWS-V

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Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

- 1. Meet all present and future national and international statutory requirements.
- 2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

- 1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
- 2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
- 3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

> We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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