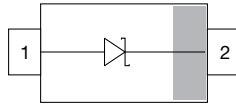
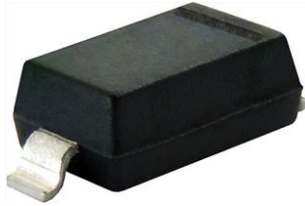


Small Signal Schottky Diodes



FEATURES

- For general purpose applications
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications
- The SD101 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guarding
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level (MSL) 1
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.6 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

| PARTS TABLE | | | | | | |
|-------------|------------------|--------------------|--------------|-----------------------|-----------------------------------|------------------------|
| PART | ORDERING CODE | AEC-Q101 QUALIFIED | TYPE MARKING | CIRCUIT CONFIGURATION | TAPED UNITS PER REEL | MINIMUM ORDER QUANTITY |
| SD101AW | SD101AW-E3-08 | no | SK | Single | 3 000 (8 mm tape on 7" reel) | 15 000 |
| | SD101AW-HE3_A-08 | yes | | | 10 000 (8 mm tape on 13" reel) | 10 000 |
| | SD101AW-E3-18 | no | | | | |
| | SD101AW-HE3_A-18 | yes | | | | |
| SD101BW | SD101BW-E3-08 | no | SL | Single | 3 000 (8 mm tape on 7" reel) | 15 000 |
| | SD101BW-HE3_A-08 | yes | | | 10 000 (8 mm tape on 13" reel) | 10 000 |
| | SD101BW-E3-18 | no | | | | |
| | SD101BW-HE3_A-18 | yes | | | | |
| SD101CW | SD101CW-E3-08 | no | SM | Single | 3 000 (8 mm tape on 7" reel) | 15 000 |
| | SD101CW-HE3_A-08 | yes | | | 10 000 (8 mm tape on 13" reel) | 10 000 |
| | SD101CW-E3-18 | no | | | | |
| | SD101CW-HE3_A-18 | yes | | | | |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | |
|---|--|---------|------------------|-------|------|--|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT | |
| Repetitive peak reverse voltage | | SD101AW | V _{RRM} | 60 | V | |
| | | SD101BW | V _{RRM} | 50 | V | |
| | | SD101CW | V _{RRM} | 40 | V | |
| Power dissipation | on FR-4 board with recommended soldering footprint | | P _{tot} | 230 | mW | |
| | Infinite heatsink | | | 330 | mW | |
| Forward continuous current ⁽¹⁾ | | | I _F | 100 | mA | |
| Maximum single cycle surge | 10 μs square wave | | I _{FSM} | 2 | A | |

Note

⁽¹⁾ Infinite heatsink



| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|---|---|------------|-------------|--------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air | according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint | R_{thJA} | 420 | K/W |
| Thermal resistance junction lead | Infinite heatsink | R_{thJL} | 300 | K/W |
| Maximum junction temperature | | T_j | 125 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | -55 to +150 | $^{\circ}\text{C}$ |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | | |
|--|---|---------|------------|------|------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | $I_R = 10\text{ }\mu\text{A}$ | SD101AW | $V_{(BR)}$ | 60 | | | V |
| | | SD101BW | $V_{(BR)}$ | 50 | | | V |
| | | SD101CW | $V_{(BR)}$ | 40 | | | V |
| Leakage current | $V_R = 50\text{ V}$ | SD101AW | I_R | | | 200 | nA |
| | $V_R = 40\text{ V}$ | SD101BW | I_R | | | 200 | nA |
| | $V_R = 30\text{ V}$ | SD101CW | I_R | | | 200 | nA |
| Forward voltage drop | $I_F = 1\text{ mA}$ | SD101AW | V_F | | | 410 | mV |
| | | SD101BW | V_F | | | 400 | mV |
| | | SD101CW | V_F | | | 390 | mV |
| | $I_F = 15\text{ mA}$ | SD101AW | V_F | | | 1000 | mV |
| | | SD101BW | V_F | | | 950 | mV |
| | | SD101CW | V_F | | | 900 | mV |
| Diode capacitance | $V_R = 0\text{ V}$, $f = 1\text{ MHz}$ | SD101AW | C_D | | | 2 | pF |
| | | SD101BW | C_D | | | 2.1 | pF |
| | | SD101CW | C_D | | | 2.2 | pF |
| Reverse recovery time | $I_F = I_R = 5\text{ mA}$, recover to $0.1\text{ }I_R$ | | t_{rr} | | | 1 | ns |



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

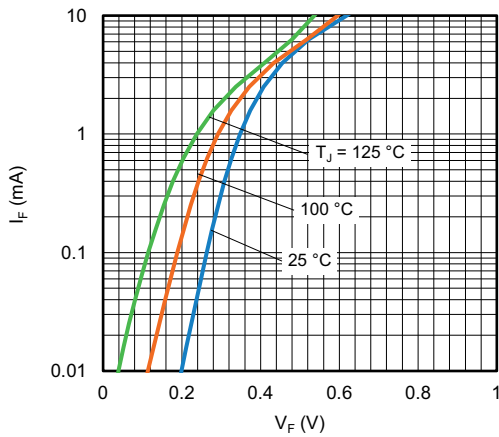


Fig. 1 - Typical Forward Current vs. Forward Voltage

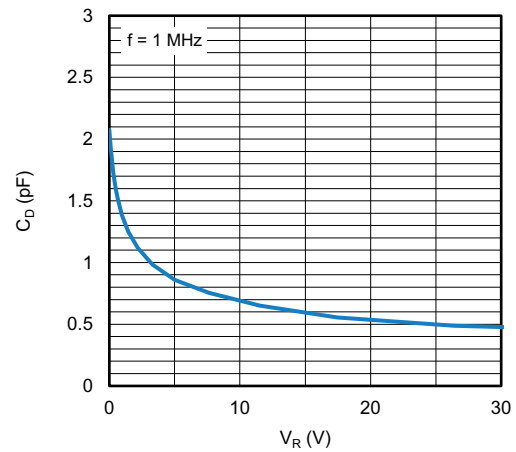


Fig. 3 - Typical Capacitance vs. Reverse Voltage

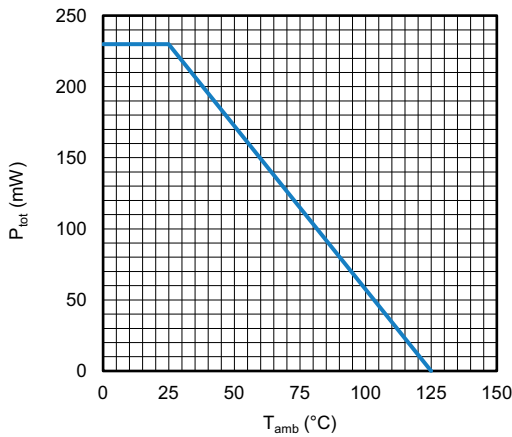


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

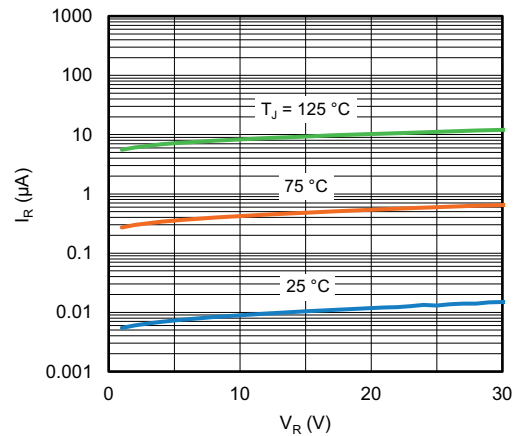
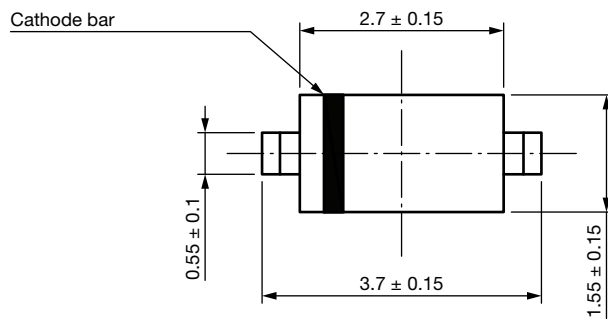
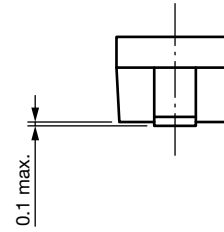
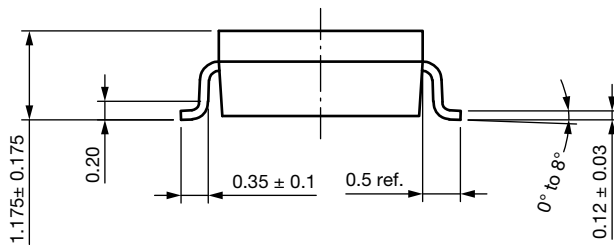


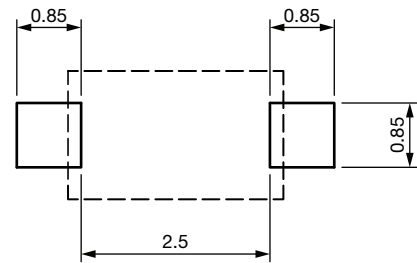
Fig. 4 - Typical Reverse Leakage vs. Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-123



Foot print recommendation

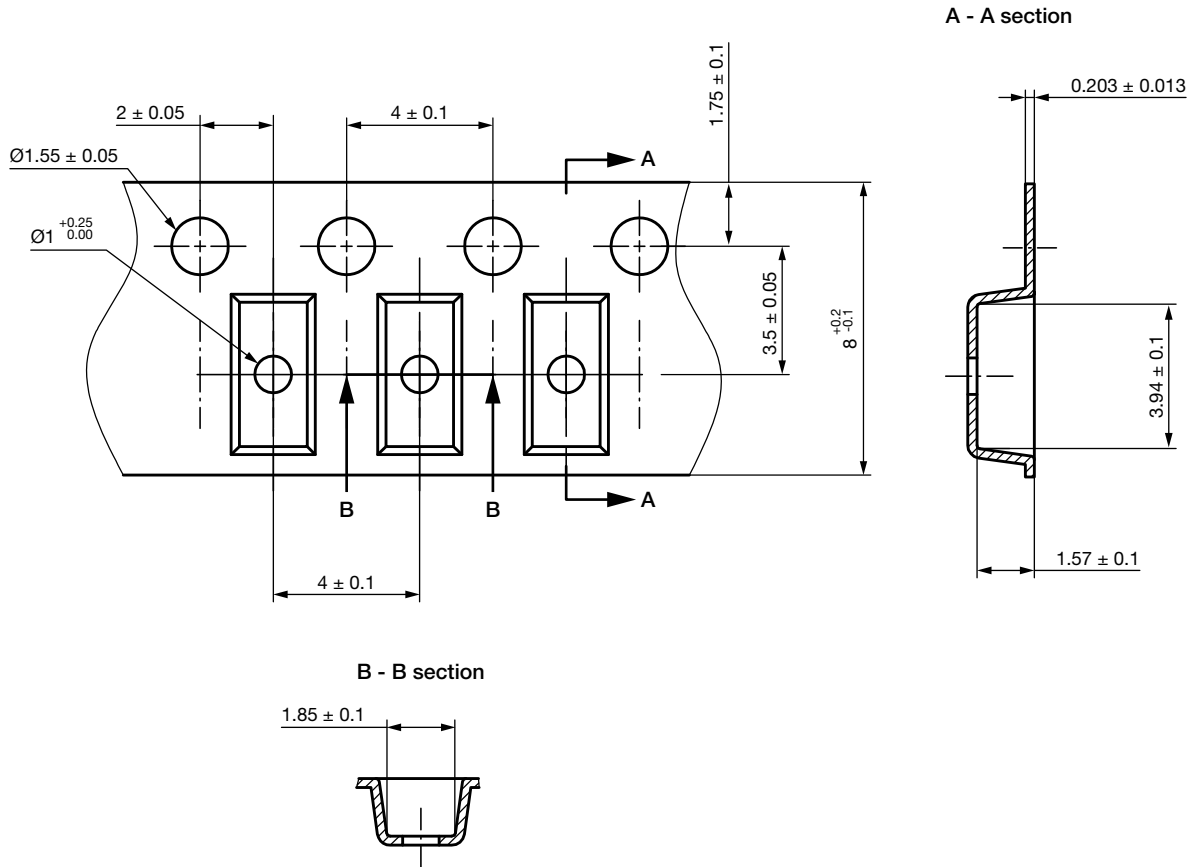


Rev. 01 - Date: 18. Jan. 2022
Document no.: S8-V-3910.01-003 (4)

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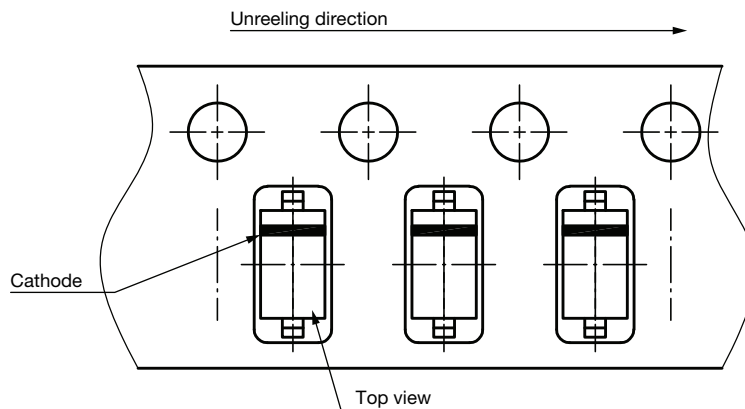
CARRIER TAPE SOD-123



Rev. 02 - Date: 21. Jan. 2014
Document no.: S8-V-3717.10-002 (4)

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ORIENTATION IN CARRIER TAPE SOD-123



Rev. 02 - Date: 07. Nov. 2022
Document no.: S8-V-3717.10-003 (4)

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