



Small Signal Schottky Diodes



DESIGN SUPPORT TOOLS

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MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 mg

Packaging codes/options:

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

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

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 (part number on request)
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



| PARTS TABLE | | | | |
|-------------|--------------------------------|-----------------------|--------------|---------------|
| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS |
| SD101AW-G | SD101AW-G3-08 or SD101AW-G3-18 | Single | SK | Tape and reel |
| SD101BW-G | SD101BW-G3-08 or SD101BW-G3-18 | Single | SL | |
| SD101CW-G | SD101CW-G3-08 or SD101CW-G3-18 | Single | SM | |

| ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified) | | | | | |
|---------------------------------------------------------------------------------|-------------------|-----------|------------------|-------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
| Repetitive peak reverse voltage | | SD101AW-G | V _{RRM} | 60 | V |
| | | SD101BW-G | V _{RRM} | 50 | V |
| | | SD101CW-G | V _{RRM} | 40 | V |
| Power dissipation (infinite heatsink) ⁽¹⁾ | | | P _{tot} | 400 | mW |
| Forward continuous current | | | I _F | 30 | mA |
| Maximum single cycle surge | 10 μs square wave | | I _{FSM} | 2 | A |

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

| THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | |
|--------------------------------------------------------------------------------|----------------|-------------------|-------------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air ⁽¹⁾ | | R _{thJA} | 300 | K/W |
| Junction temperature ⁽¹⁾ | | T _j | 125 | °C |
| Storage temperature range | | T _{stg} | -65 to +150 | °C |
| Operating temperature range | | T _{op} | -55 to +125 | °C |

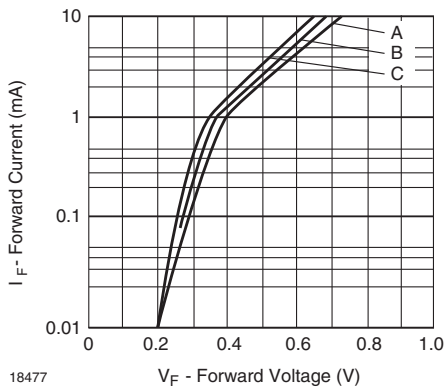
Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

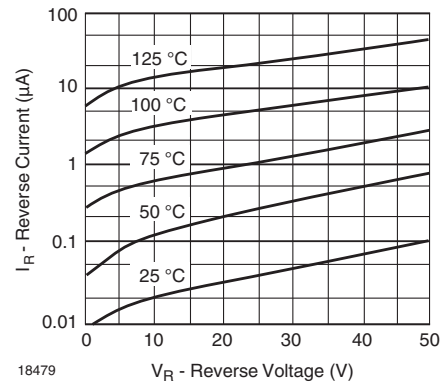


| ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified) | | | | | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------|-------------------|------|------|------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | I _R = 10 μA | SD101AW-G | V _(BR) | 60 | | | V |
| | | SD101BW-G | V _(BR) | 50 | | | V |
| | | SD101CW-G | V _(BR) | 40 | | | V |
| Leakage current | V _R = 50 V | SD101AW-G | I _R | | | 200 | nA |
| | V _R = 40 V | SD101BW-G | I _R | | | 200 | nA |
| | V _R = 30 V | SD101CW-G | I _R | | | 200 | nA |
| Forward voltage drop | I _F = 1 mA | SD101AW-G | V _F | | | 410 | mV |
| | | SD101BW-G | V _F | | | 400 | mV |
| | | SD101CW-G | V _F | | | 390 | mV |
| | I _F = 15 mA | SD101AW-G | V _F | | | 1000 | mV |
| | | SD101BW-G | V _F | | | 950 | mV |
| | | SD101CW-G | V _F | | | 900 | mV |
| Diode capacitance | V _R = 0 V, f = 1 MHz | SD101AW-G | C _D | | | 2 | pF |
| | | SD101BW-G | C _D | | | 2.1 | pF |
| | | SD101CW-G | C _D | | | 2.2 | pF |
| Reverse recovery time | I _F = I _R = 5 mA, recover to 0.1 I _R | | t _{rr} | | | 1 | ns |

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)



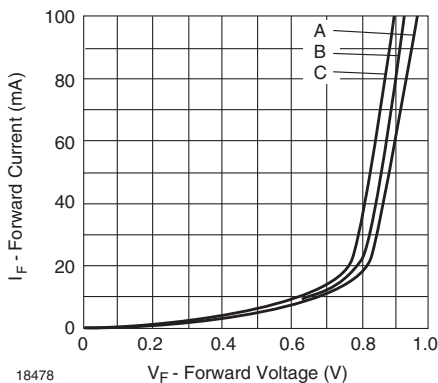
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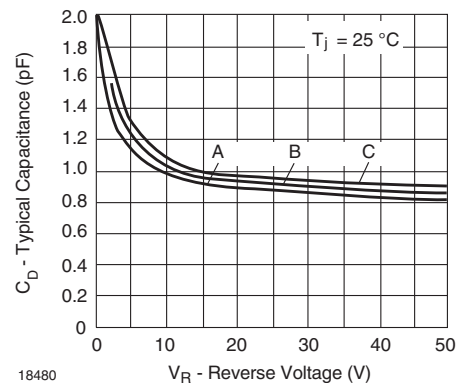
Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

Fig. 3 - Typical Variation of Reverse Current at Various Temperatures



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Fig. 2 - Typical Forward Conduction Curve

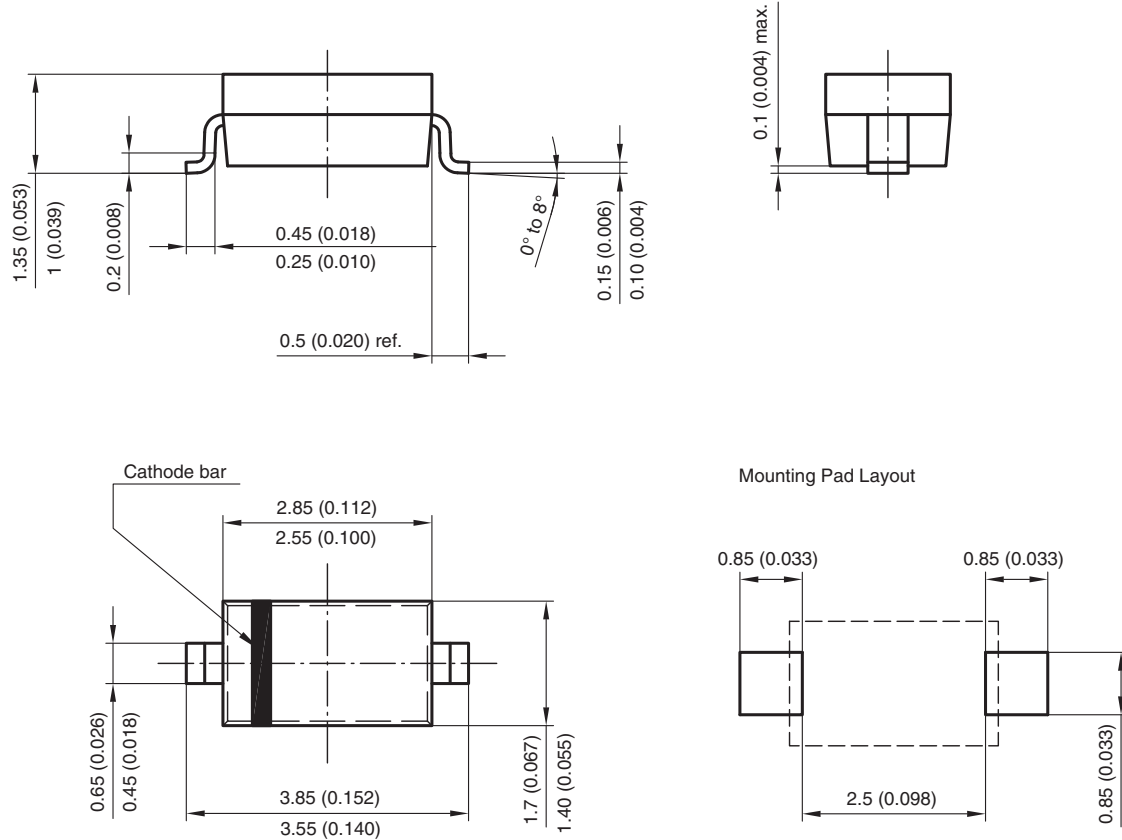


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Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches): SOD-123



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