



Small Signal Schottky Diodes



FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

MECHANICAL DATA

Case: DO-35

Weight: approx. 125 mg

Cathode band color: black

Packaging codes/options:

TR/10K per 13" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

APPLICATIONS

- HF-detector
- Protection circuit
- Diode for low currents with a low supply voltage
- Small battery charger
- Power supplies
- DC/DC converter for notebooks

| PARTS TABLE | | | | | |
|-------------|--|-------------------------|-----------------------|--------------|------------------------|
| PART | TYPE DIFFERENTIATION | ORDERING CODE | INTERNAL CONSTRUCTION | TYPE MARKING | REMARKS |
| SD101A | $V_R = 60\text{ V}$, V_F max. 410 mV at $I_F = 1\text{ mA}$ | SD101A-TR or SD101A-TAP | Single diode | SD101A | Tape and reel/ ammpack |
| SD101B | $V_R = 50\text{ V}$, V_F max. 400 mV at $I_F = 1\text{ mA}$ | SD101B-TR or SD101B-TAP | Single diode | SD101B | Tape and reel/ ammpack |
| SD101C | $V_R = 40\text{ V}$, V_F max. 390 mV at $I_F = 1\text{ mA}$ | SD101C-TR or SD101C-TAP | Single diode | SD101C | Tape and reel/ ammpack |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified) | | | | | |
|---|-------------------------------|--------|-----------|-------|------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
| Reverse voltage | | SD101A | V_R | 60 | V |
| | | SD101B | V_R | 50 | V |
| | | SD101C | V_R | 40 | V |
| Forward continuous current | | | I_F | 30 | mA |
| Peak forward surge current | $t_p = 10\text{ }\mu\text{s}$ | | I_{FSM} | 2 | A |
| Repetitive peak forward current | | | I_{FRM} | 150 | mA |
| Power dissipation ⁽¹⁾ | | | P_{tot} | 310 | mW |

Note

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

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified) | | | | |
|--|----------------|------------|---------------|------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Junction temperature | | T_j | 125 | $^\circ\text{C}$ |
| Storage temperature range | | T_{stg} | - 65 to + 150 | $^\circ\text{C}$ |
| Thermal resistance junction to ambient air ⁽¹⁾ | | R_{thJA} | 320 | K/W |

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 | SD101A | V _(BR) | 60 | | | V |
| | | SD101B | V _(BR) | 50 | | | V |
| | | SD101C | V _(BR) | 40 | | | V |
| Leakage current | V _R = 50 V | SD101A | I _R | | | 200 | nA |
| | V _R = 40 V | SD101B | I _R | | | 200 | nA |
| | V _R = 30 V | SD101C | I _R | | | 200 | nA |
| Forward voltage drop | I _F = 1 mA | SD101A | V _F | | | 410 | mV |
| | | SD101B | V _F | | | 400 | mV |
| | | SD101C | V _F | | | 390 | mV |
| | I _F = 15 mA | SD101A | V _F | | | 1000 | mV |
| | | SD101B | V _F | | | 950 | mV |
| | | SD101C | V _F | | | 900 | mV |
| Diode capacitance | V _R = 0 V, f = 1 MHz | SD101A | C _D | | | 2.0 | pF |
| | | SD101B | C _D | | | 2.1 | pF |
| | | SD101C | C _D | | | 2.2 | pF |

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

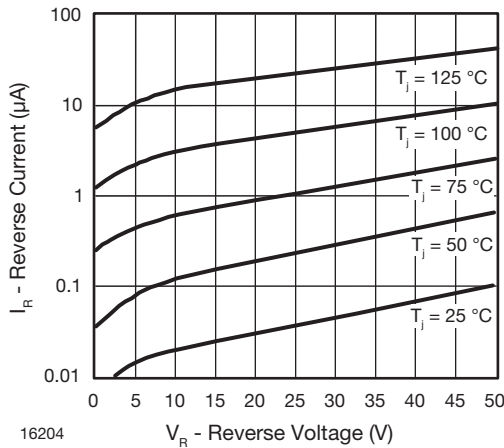


Fig. 1 - Reverse Current vs. Reverse Voltage

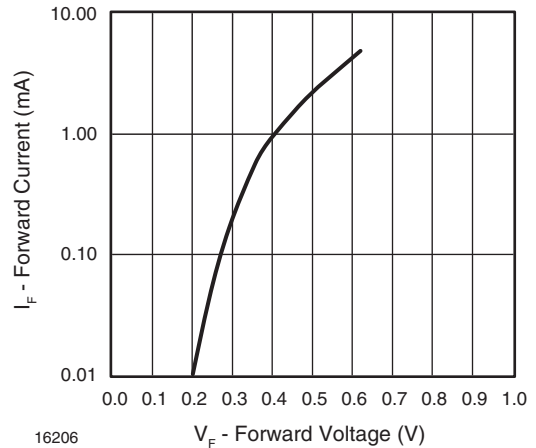


Fig. 3 - Forward Current vs. Forward Voltage

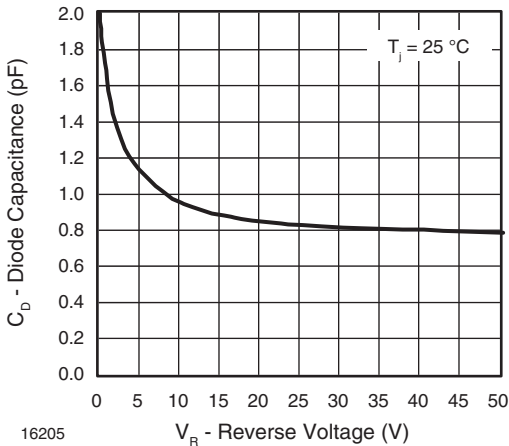
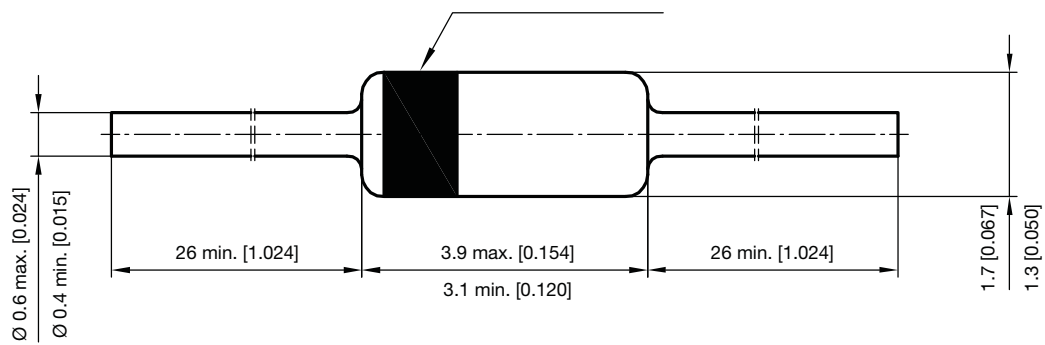


Fig. 2 - Diode Capacitance vs. Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches): **DO-35**



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