

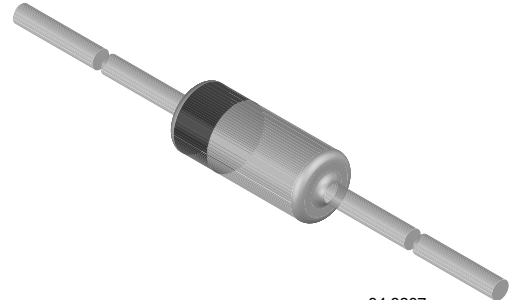
## Small Signal Schottky Diodes

### Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**



94 9367

### Applications

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

### Mechanical Data

**Case:** DO-35

**Weight:** approx. 125 mg

**Cathode band color:** black

**Packaging codes/options:**

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

TAP/10 k per Ammopack (52 mm tape), 50 k/box

### Parts Table

Part	Type differentiation	Ordering code	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	SD101A	Tape and Reel/Ammopack
SD101B	$V_R = 50\text{ V}$ , $V_F$ max. 400 mV at $I_F = 1\text{ mA}$	SD101B-TR or SD101B-TAP	SD101B	Tape and Reel/Ammopack
SD101C	$V_R = 40\text{ V}$ , $V_F$ max. 390 mV at $I_F = 1\text{ mA}$	SD101C-TR or SD101C-TAP	SD101C	Tape and Reel/Ammopack

### Absolute Maximum Ratings

$T_{amb} = 25\text{ °C}$ , 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			$P_{tot}$	310 <sup>1)</sup>	mW

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

## Vishay Semiconductors

## 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		$R_{thJA}$	320 <sup>1)</sup>	K/W

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

## Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$I_R = 10\text{ }\mu\text{A}$	SD101A	$V_{(BR)}$	60			V
		SD101B	$V_{(BR)}$	50			V
		SD101C	$V_{(BR)}$	40			V
Leakage current	$V_R = 50\text{ V}$	SD101A	$I_R$			200	nA
	$V_R = 40\text{ V}$	SD101B	$I_R$			200	nA
	$V_R = 30\text{ V}$	SD101C	$I_R$			200	nA
Forward voltage drop	$I_F = 1\text{ mA}$	SD101A	$V_F$			410	mV
		SD101B	$V_F$			400	mV
		SD101C	$V_F$			390	mV
	$I_F = 15\text{ mA}$	SD101A	$V_F$			1000	mV
		SD101B	$V_F$			950	mV
		SD101C	$V_F$			900	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	SD101A	$C_D$			2.0	pF
		SD101B	$C_D$			2.1	pF
	$V_R = 0\text{ V}, f = 1\text{ MHz}$	SD101C	$C_D$			2.2	pF

## Typical Characteristics

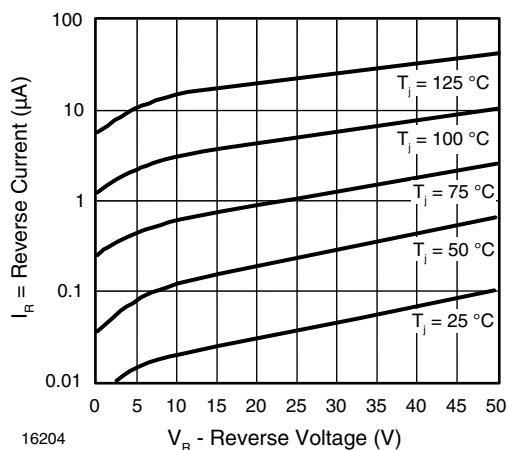
 $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified


Figure 1. Reverse Current vs. Reverse Voltage

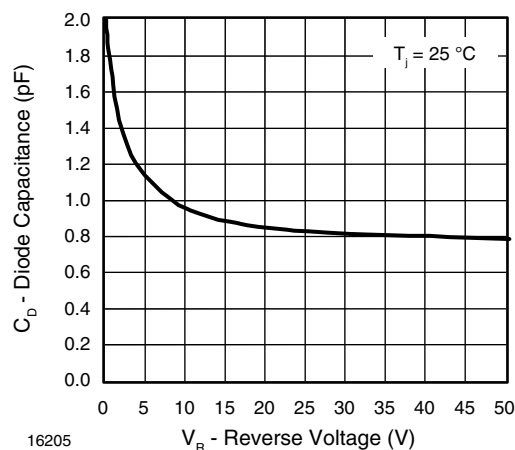


Figure 2. Diode Capacitance vs. Reverse Voltage

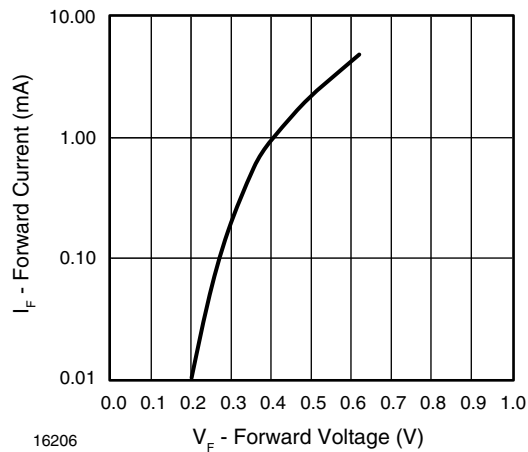
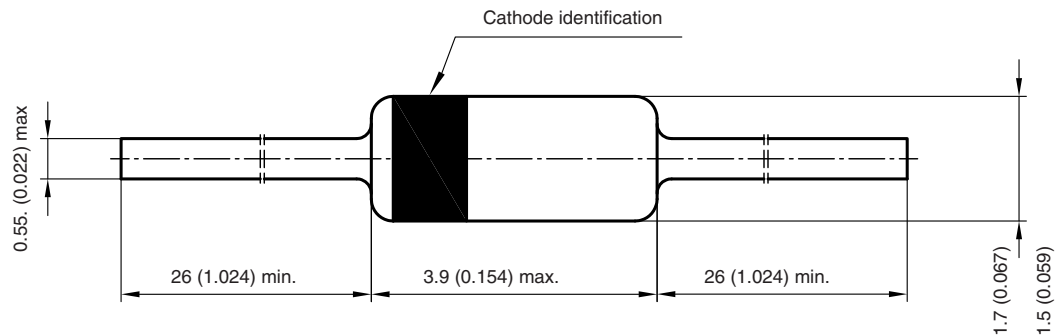


Figure 3. Forward Current vs. Forward Voltage

## Package Dimensions in millimeters (inches): DO-35



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