

## 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](http://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 <sup>(1)</sup>			$P_{tot}$	310	mW

#### Note

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

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.



ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 10 μA	SD101A	V <sub>(BR)</sub>	60			V
		SD101B	V <sub>(BR)</sub>	50			V
		SD101C	V <sub>(BR)</sub>	40			V
Leakage current	V <sub>R</sub> = 50 V	SD101A	I <sub>R</sub>			200	nA
	V <sub>R</sub> = 40 V	SD101B	I <sub>R</sub>			200	nA
	V <sub>R</sub> = 30 V	SD101C	I <sub>R</sub>			200	nA
Forward voltage drop	I <sub>F</sub> = 1 mA	SD101A	V <sub>F</sub>			410	mV
		SD101B	V <sub>F</sub>			400	mV
		SD101C	V <sub>F</sub>			390	mV
	I <sub>F</sub> = 15 mA	SD101A	V <sub>F</sub>			1000	mV
		SD101B	V <sub>F</sub>			950	mV
		SD101C	V <sub>F</sub>			900	mV
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	SD101A	C <sub>D</sub>			2.0	pF
		SD101B	C <sub>D</sub>			2.1	pF
		SD101C	C <sub>D</sub>			2.2	pF

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

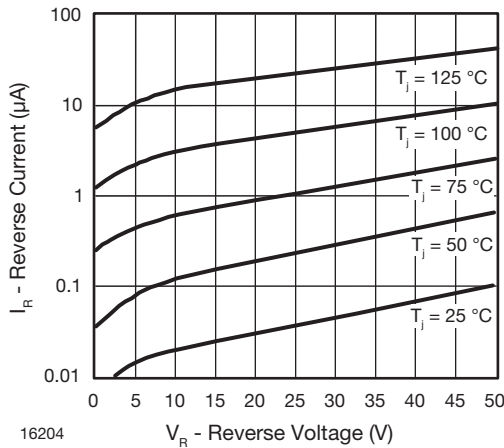


Fig. 1 - Reverse Current vs. Reverse Voltage

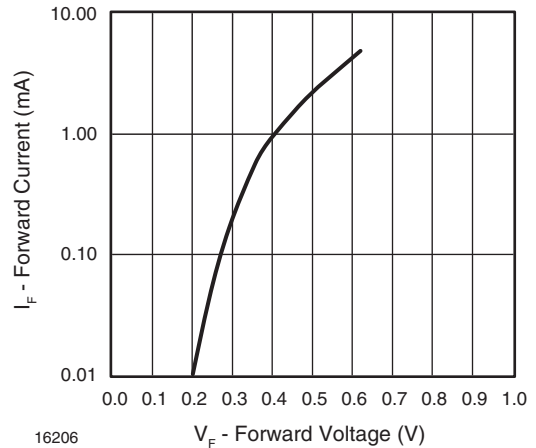


Fig. 3 - Forward Current vs. Forward Voltage

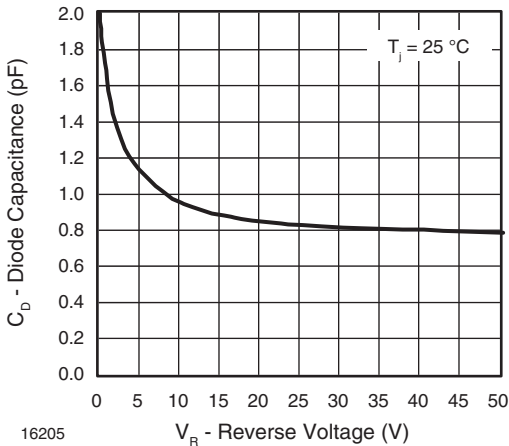
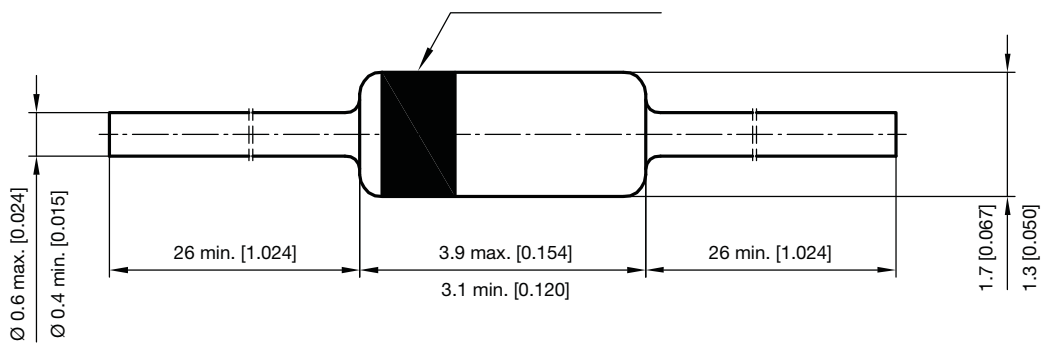


Fig. 2 - Diode Capacitance vs. Reverse Voltage



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



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