

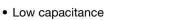
## Vishay Semiconductors

# **Small Signal Schottky Diodes**



#### **FEATURES**





- Low leakage current
- Low forward voltage drop
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912





COMPLIANT HALOGEN

### **LINKS TO ADDITIONAL RESOURCES**



#### **MECHANICAL DATA**

Case: DO-35 (DO-204AH)
Weight: approx. 125 mg
Cathode band color: black
Packaging codes/options:

TR/10K per 13" reel (52 mm tape), 50K/box TAP/10K per ammopack (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	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS	
SD101A	$V_R = 60 \text{ V}, V_F \text{ max. } 410 \text{ mV}$ at $I_F = 1 \text{ mA}$	SD101A-TR or SD101A-TAP	Single	SD101A	Tape and reel/ ammopack	
SD101B	$V_R = 50 \text{ V}, V_F \text{ max. } 400 \text{ mV}$ at $I_F = 1 \text{ mA}$	SD101B-TR or SD101B-TAP	Single	SD101B	Tape and reel/ ammopack	
SD101C	$V_R = 40 \text{ V}, V_F \text{ max. } 390 \text{ mV}$ at $I_F = 1 \text{ mA}$	SD101C-TR or SD101C-TAP	Single	SD101C	Tape and reel/ ammopack	

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		SD101A	V <sub>R</sub>	60	V	
Reverse voltage		SD101B	V <sub>R</sub>	50	V	
		SD101C	V <sub>R</sub>	40	V	
Forward continuous current			I <sub>F</sub>	30	mA	
Peak forward surge current	t <sub>p</sub> = 10 μs		I <sub>FSM</sub>	2	Α	
Repetitive peak forward current			I <sub>FRM</sub>	150	mA	
Power dissipation (1)			P <sub>tot</sub>	310	mW	

#### Note

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

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Junction temperature		Tj	125	°C	
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C	
Thermal resistance junction to ambient air (1)		R <sub>thJA</sub>	320	K/W	

#### Note

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



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

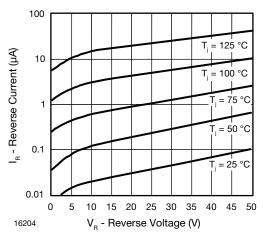


Fig. 1 - Reverse Current vs. Reverse Voltage

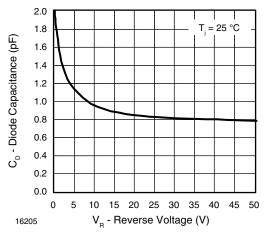


Fig. 2 - Diode Capacitance vs. Reverse Voltage

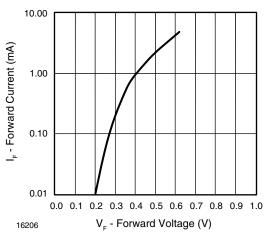
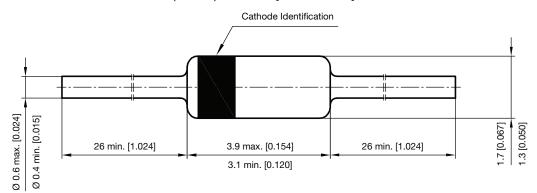


Fig. 3 - Forward Current vs. Forward Voltage

# SD101A, SD101B, SD101C

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### PACKAGE DIMENSIONS in millimeters (inches): DO-35 (DO-204AH)



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