

# SD101AW-G, SD101BW-G, SD101CW-G

**Vishay Semiconductors** 

# **Small Signal Schottky Diodes**



### **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

### FEATRUES

- 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 
  *GREEN (5-2008)*
- AEC-Q101 qualified
- Base P/N-G3 green, commercial grade
- Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

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

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{amb} = 25 \degree C$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		SD101AW-G	V <sub>RRM</sub>	60	V	
Repetitive peak reverse voltage		SD101BW-G	V <sub>RRM</sub>	50	V	
		SD101CW-G	V <sub>RRM</sub>	40	V	
Power dissipation (infinite heatsink) <sup>(1)</sup>			P <sub>tot</sub>	400	mW	
Forward continuous current			I <sub>F</sub>	30	mA	
Maximum single cycle surge	10 µs square wave		I <sub>FSM</sub>	2	А	

#### Note

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

<b>THERMAL CHARACTERISTICS</b> ( $T_{amb} = 25 \text{ °C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Thermal resistance junction to ambient air <sup>(1)</sup>		R <sub>thJA</sub>	300	K/W		
Junction temperature <sup>(1)</sup>		Тj	125	°C		
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C		
Operating ttemperature range		T <sub>op</sub>	- 55 to + 125	°C		

#### Note

<sup>(1)</sup> 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
Reverse breakdown voltage	I <sub>R</sub> = 10 μA	SD101AW-G	V <sub>(BR)</sub>	60			V
		SD101BW-G	V <sub>(BR)</sub>	50			V
		SD101CW-G	V <sub>(BR)</sub>	40			V
Leakage current	V <sub>R</sub> = 50 V	SD101AW-G	I <sub>R</sub>			200	nA
	$V_R = 40 V$	SD101BW-G	I <sub>R</sub>			200	nA
	V <sub>R</sub> = 30 V	SD101CW-G	I <sub>R</sub>			200	nA
	I <sub>F</sub> = 1 mA	SD101AW-G	V <sub>F</sub>			410	mV
		SD101BW-G	V <sub>F</sub>			400	mV
Forward valtage drap		SD101CW-G	V <sub>F</sub>			390	mV
Forward voltage drop	I <sub>F</sub> = 15 mA	SD101AW-G	V <sub>F</sub>			1000	mV
		SD101BW-G	V <sub>F</sub>			950	mV
		SD101CW-G	V <sub>F</sub>			900	mV
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	SD101AW-G	CD			2	pF
		SD101BW-G	CD			2.1	pF
		SD101CW-G	CD			2.2	pF
Reverse recovery time	$I_F = I_R = 5$ mA, recover to 0.1 $I_R$		t <sub>rr</sub>			1	ns

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

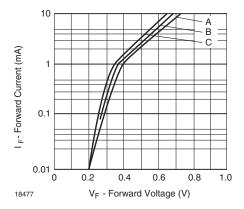


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

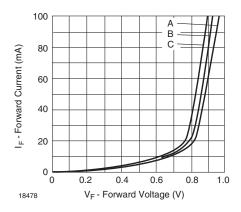


Fig. 2 - Typical Forward Conduction Curve

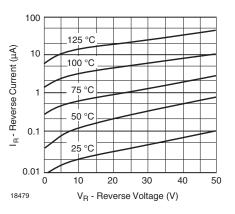
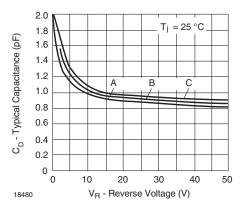
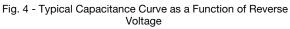


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures





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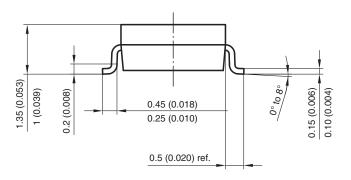
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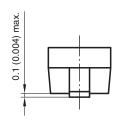


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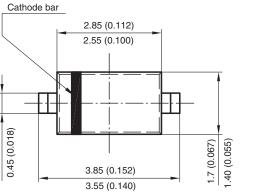
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## PACKAGE DIMENSIONS in millimeters (inches): SOD-123





Mounting Pad Layout



0.85 (0.033) 0.

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0.65 (0.026)



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