



## Small Signal Schottky Diodes



### FEATURES

- For general purpose applications
- The SD101 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guardring
- 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
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**DESIGN SUPPORT TOOLS** click logo to get started



### MECHANICAL DATA

**Case:** SOD-323

**Weight:** approx. 4.0 mg

**Packaging codes/options:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
SD101AWS-G	SD101AWS-G3-08 or SD101AWS-G3-18	Single	SK	Tape and reel
SD101BWS-G	SD101BWS-G3-08 or SD101BWS-G3-18	Single	SL	
SD101CWS-G	SD101CWS-G3-08 or SD101CWS-G3-18	Single	SM	

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD101AWS-G	V <sub>RRM</sub>	60	V
		SD101BWS-G	V <sub>RRM</sub>	50	V
		SD101CWS-G	V <sub>RRM</sub>	40	V
Power dissipation (infinite heatsink) <sup>(1)</sup>			P <sub>tot</sub>	150	mW
Forward continuous current			I <sub>F</sub>	30	mA
Maximum single cycle surge	10 μs square wave		I <sub>FSM</sub>	2	A

**Note**

<sup>(1)</sup> 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
Thermal resistance junction to ambient air <sup>(1)</sup>		R <sub>thJA</sub>	650	K/W
Junction temperature <sup>(1)</sup>		T <sub>j</sub>	125	°C
Operating temperature range		T <sub>op</sub>	-55 to +125	°C
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C

**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	SD101AWS-G	V <sub>(BR)</sub>	60			V
		SD101BWS-G	V <sub>(BR)</sub>	50			V
		SD101CWS-G	V <sub>(BR)</sub>	40			V
Leakage current	V <sub>R</sub> = 50 V	SD101AWS-G	I <sub>R</sub>			200	nA
	V <sub>R</sub> = 40 V	SD101BWS-G	I <sub>R</sub>			200	nA
	V <sub>R</sub> = 30 V	SD101CWS-G	I <sub>R</sub>			200	nA
Forward voltage drop	I <sub>F</sub> = 1 mA	SD101AWS-G	V <sub>F</sub>			410	mV
		SD101BWS-G	V <sub>F</sub>			400	mV
		SD101CWS-G	V <sub>F</sub>			390	mV
	I <sub>F</sub> = 15 mA	SD101AWS-G	V <sub>F</sub>			1000	mV
		SD101BWS-G	V <sub>F</sub>			950	mV
		SD101CWS-G	V <sub>F</sub>			900	mV
Junction capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	SD101AWS-G	C <sub>D</sub>			2.0	ns
		SD101BWS-G	C <sub>D</sub>			2.1	ns
		SD101CWS-G	C <sub>D</sub>			2.2	ns
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 5 mA, recover to 0.1 I <sub>R</sub>		t <sub>rr</sub>			1	ns

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

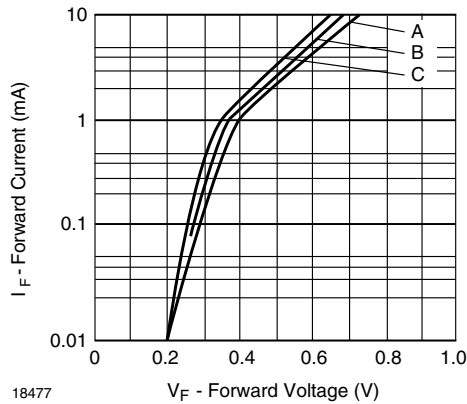


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

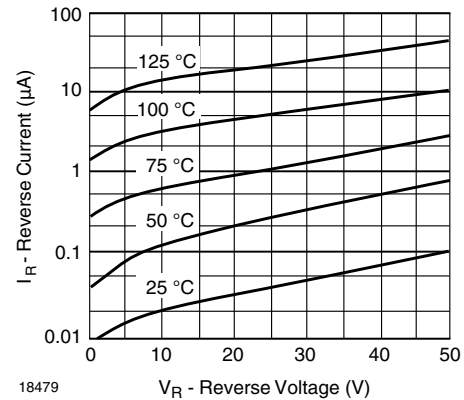


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

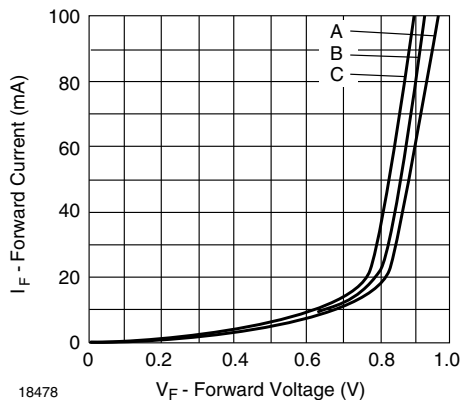


Fig. 2 - Typical Forward Conduction Curve

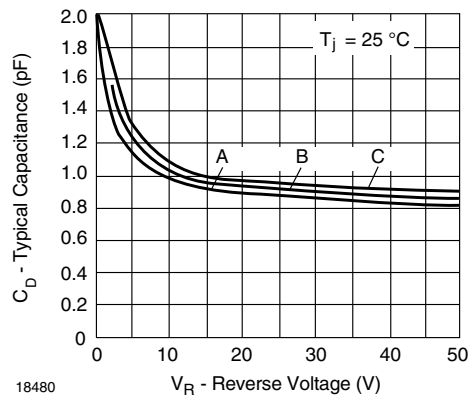
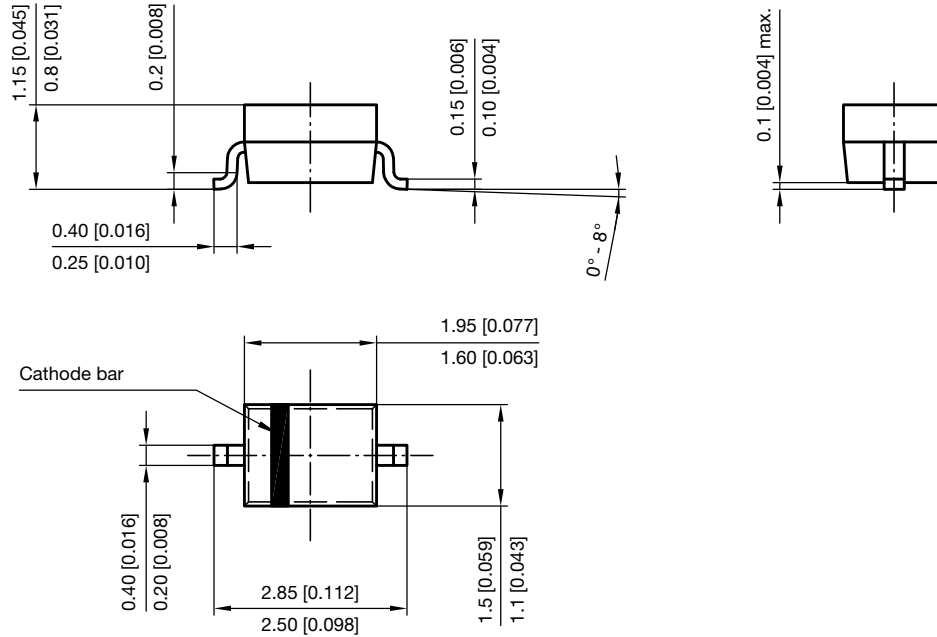


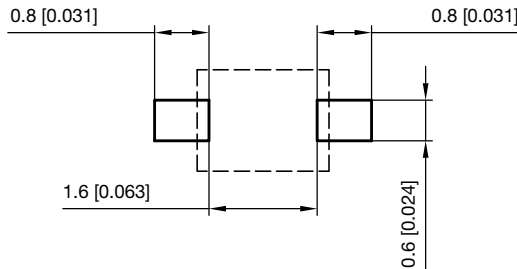
Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage



## PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



Document no.: S8-V-3910.02-001 (4)  
 Created - Date: 24.August.2004  
 Rev. 6 - Date: 23.Sept.2016  
 17443



## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.