



## Small Signal Schottky Diodes



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



### MECHANICAL DATA

**Case:** SOD-323

**Weight:** approx. 4.3 mg

**Packaging codes/options:**

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

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

### FEATURES

- The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- 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
- For general purpose applications
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
SD103AWS	SD103AWS-E3-08 or SD103AWS-E3-18	Single	S6	Tape and reel
	SD103AWS-HE3-08 or SD103AWS-HE3-18			
SD103BWS	SD103BWS-E3-08 or SD103BWS-E3-18	Single	S7	
	SD103BWS-HE3-08 or SD103BWS-HE3-18			
SD103CWS	SD103CWS-E3-08 or SD103CWS-E3-18	Single	S8	
	SD103CWS-HE3-08 or SD103CWS-HE3-18			

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD103AWS	$V_{RRM}$	40	V
		SD103BWS	$V_{RRM}$	30	V
		SD103CWS	$V_{RRM}$	20	V
Forward continuous current <sup>(1)</sup>			$I_F$	350	mA
Power dissipation <sup>(1)</sup>			$P_{tot}$	200	mW
Single cycle surge	10 $\mu$ s square wave		$I_{FS,M}$	2	A

#### 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	
Thermal resistance junction to ambient air <sup>(1)</sup>		$R_{thJA}$	500	K/W	
Junction temperature		$T_j$	125	$^{\circ}\text{C}$	
Operating temperature range		$T_{op}$	-55 to +125	$^{\circ}\text{C}$	
Storage temperature range		$T_{stg}$	-55 to +150	$^{\circ}\text{C}$	

#### 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
Leakage current	V <sub>R</sub> = 30 V	SD103AWS	I <sub>R</sub>			5	μA
	V <sub>R</sub> = 20 V	SD103BWS	I <sub>R</sub>			5	μA
	V <sub>R</sub> = 10 V	SD103CWS	I <sub>R</sub>			5	μA
Forward voltage drop	I <sub>F</sub> = 20 mA		V <sub>F</sub>			370	mV
	I <sub>F</sub> = 200 mA		V <sub>F</sub>			600	mV
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz		C <sub>D</sub>		50		pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 50 mA to 200 mA, recover to 0.1 I <sub>R</sub>		t <sub>rr</sub>		10		ns

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

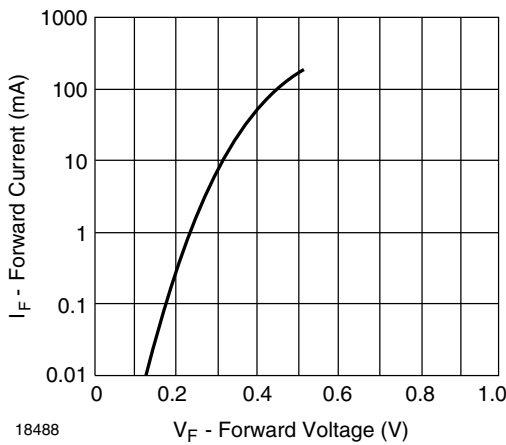


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

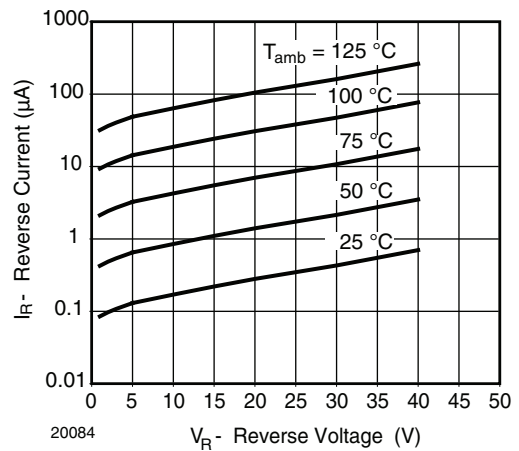


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

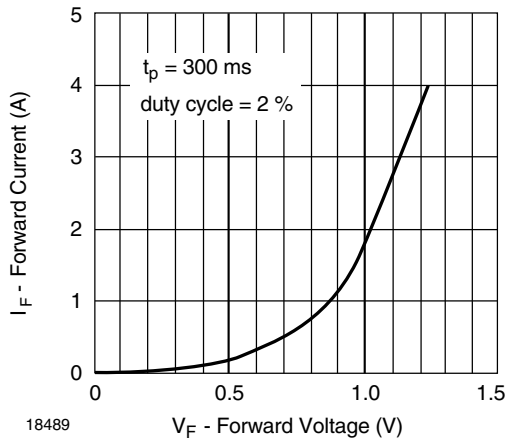


Fig. 2 - Typical High Current Forward Conduction Curve

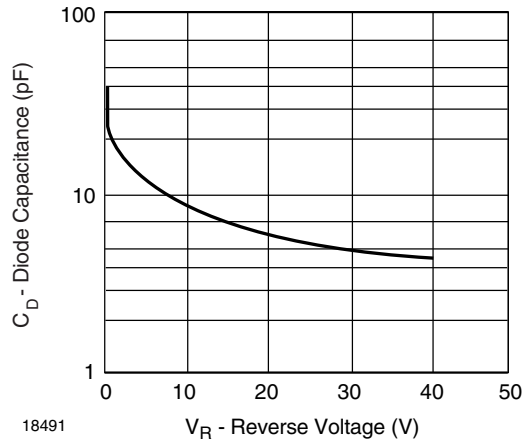


Fig. 4 - Diode Capacitance vs. Reverse Voltage

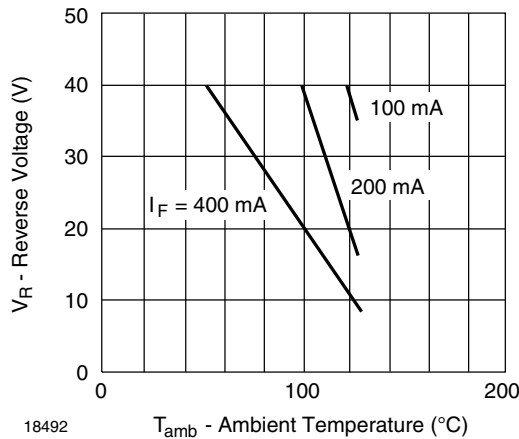
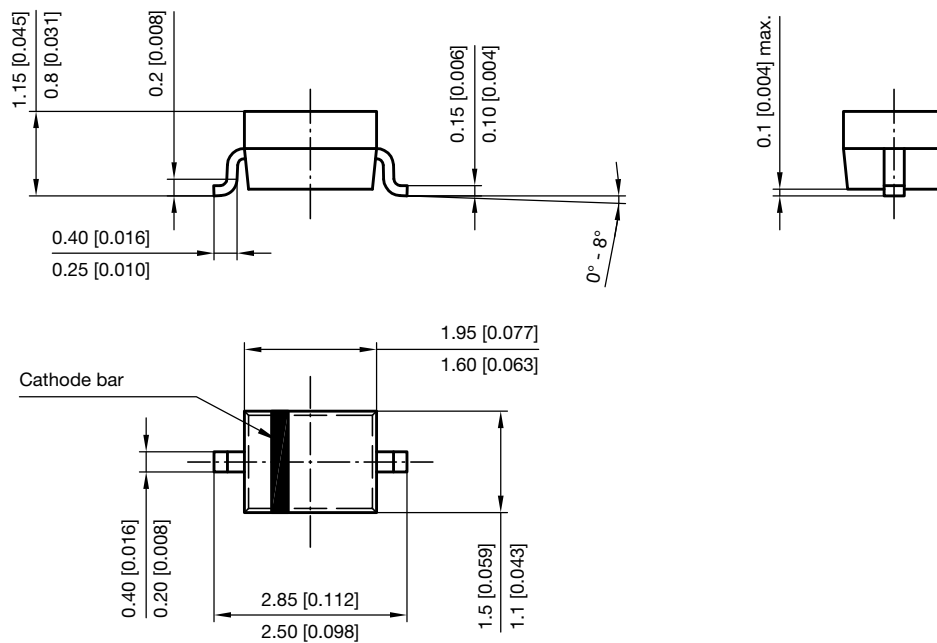
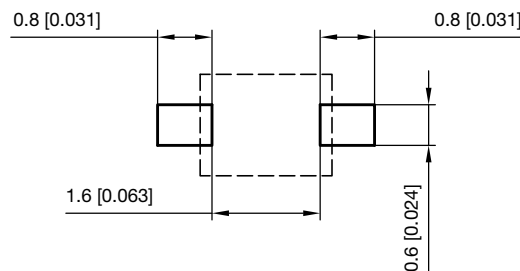


Fig. 5 - Blocking Voltage Deration vs. Temperature at Various Average Forward Currents

### 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.

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.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Vishay:](#)

[SD103AWS-V-GS08](#) [SD103BWS-V-GS08](#) [SD103CWS-V-GS08](#) [SD103AWS-V-GS18](#) [SD103BWS-V-GS18](#)  
[SD103CWS-V-GS18](#) [SD103CWS-E3-18](#) [SD103CWS-HE3-08](#) [SD103AWS-HE3-08](#) [SD103AWS-E3-08](#) [SD103BWS-](#)  
[E3-18](#) [SD103BWS-HE3-18](#) [SD103AWS-E3-18](#) [SD103CWS-E3-08](#) [SD103AWS-HE3-18](#) [SD103BWS-E3-08](#)  
[SD103CWS-HE3-18](#) [SD103BWS-HE3-08](#)