



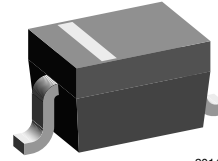
## Small Signal Schottky Diodes

### Features

- The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- This diode is also available in the Mini-MELF case with the type designations LL103A to LL103C, DO35 case with the type designations SD103A to SD103C and SOD123 case with type designations SD103AW-V to SD103CW-V
- 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
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS COMPLIANT



20145

### Mechanical Data

**Case:** SOD323 plastic case

**Weight:** approx. 4.3 mg

**Packaging codes/options:**

GS18/10 k per 13" reel (8 mm tape), 10 k/box

GS08/3 k per 7" reel (8 mm tape), 15 k/box

### Parts Table

Part	Ordering code	Type marking	Remarks
SD103AWS-V	SD103AWS-V-GS18 or SD103AWS-V-GS08	S6	Tape and reel
SD103BWS-V	SD103BWS-V-GS18 or SD103BWS-V-GS08	S7	Tape and reel
SD103CWS-V	SD103CWS-V-GS18 or SD103CWS-V-GS08	S8	Tape and reel

### Absolute Maximum Ratings

T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage		SD103AWS-V	V <sub>RRM</sub>	40	V
		SD103BWS-V	V <sub>RRM</sub>	30	V
		SD103CWS-V	V <sub>RRM</sub>	20	V
Power dissipation			P <sub>tot</sub>	200 <sup>1)</sup>	mW
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		R <sub>thJA</sub>	500 <sup>1)</sup>	K/W
Junction temperature		T <sub>j</sub>	125	°C
Storage temperature range		T <sub>stg</sub>	- 55 to + 150	°C

Note

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

## Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit
Leakage current	$V_R = 30\text{ V}$	SD103AWS-V	$I_R$			5	$\mu\text{A}$
	$V_R = 20\text{ V}$	SD103BWS-V	$I_R$			5	$\mu\text{A}$
	$V_R = 10\text{ V}$	SD103CWS-V	$I_R$			5	$\mu\text{A}$
Forward voltage drop	$I_F = 20\text{ mA}$		$V_F$			370	mV
	$I_F = 200\text{ mA}$		$V_F$			600	mV
Diode capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$		$C_D$		50		pF
Reverse recovery time	$I_F = I_R = 50\text{ mA}$ to $200\text{ mA}$ , recover to $0.1 I_R$		$t_{rr}$		10		ns

## Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified

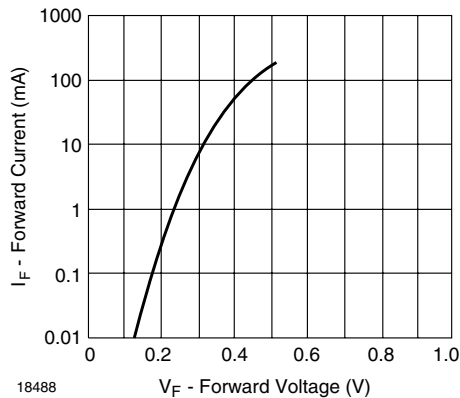


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

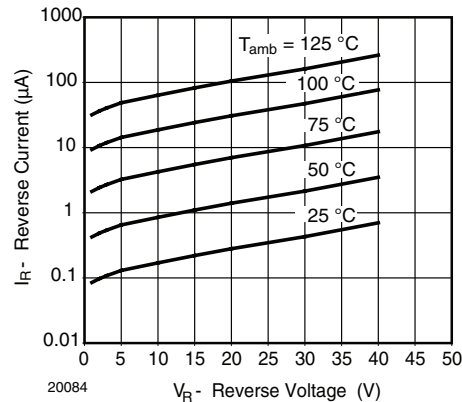


Figure 3. Typical Variation of Reverse Current at Various Temperatures

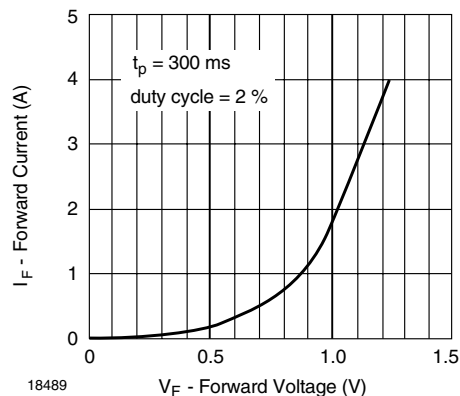


Figure 2. Typical High Current Forward Conduction Curve

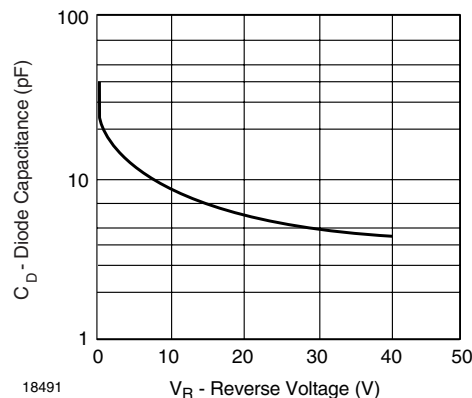


Figure 4. Diode Capacitance vs. Reverse Voltage

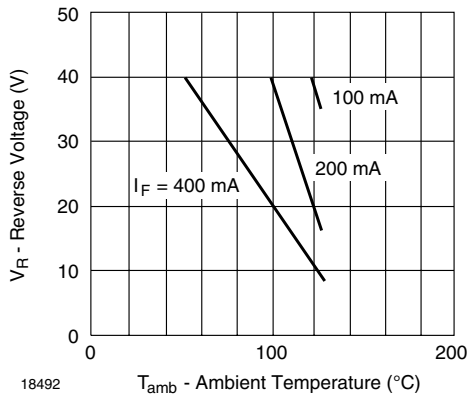
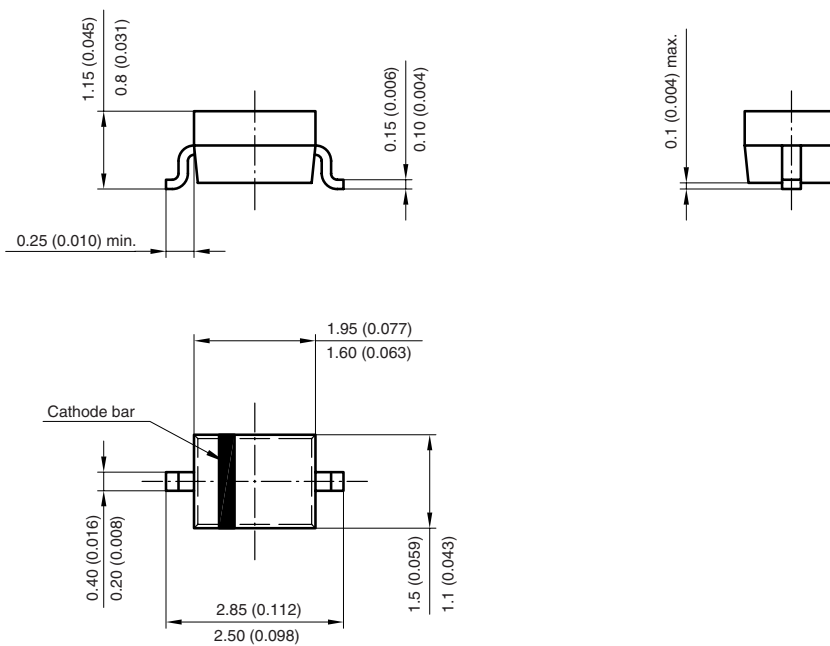
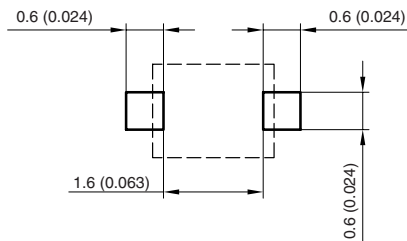


Figure 5. Blocking Voltage Deration vs. Temperature at Various Average Forward Currents

## Package Dimensions in mm (inches): SOD323



Foot print recommendation:



Created - Date: 24. August. 2004  
 Rev. 03 - Date: 02.November.2005  
 Document no.: S8-V-3910.02-001 (4)  
 17443



## Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.