

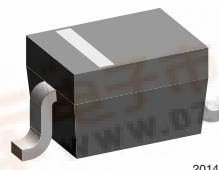
Small Signal Schottky Diodes

Features

- The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- 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
- Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems
- For general purpose applications
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT
GREEN
(5-2008)**



20145

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	Type marking	Remarks
SD103AWS-V-G	SD103AWS-V-G-18 or SD103AWS-V-G-08	Z6	Tape and reel
SD103BWS-V-G	SD103BWS-V-G-18 or SD103BWS-V-G-08	Z7	Tape and reel
SD103CWS-V-G	SD103CWS-V-G-18 or SD103CWS-V-G-08	Z8	Tape and reel

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage		SD103AWS-V-G	V_{RRM}	40	V
		SD103BWS-V-G	V_{RRM}	30	V
		SD103CWS-V-G	V_{RRM}	20	V
Power dissipation			P_{tot}	200 ¹⁾	mW
Single cycle surge	10 μs square wave		I_{FSM}	2	A

Note

¹⁾ Valid provided that electrodes are kept at ambient temperature

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	500 ¹⁾	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

Note

¹⁾ Valid provided that electrodes are kept at ambient temperature

** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902





Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit
Leakage current	V _R = 30 V	SD103AWS-V-G	I _R			5	μA
	V _R = 20 V	SD103BWS-V-G	I _R			5	μA
	V _R = 10 V	SD103CWS-V-G	I _R			5	μA
Forward voltage drop	I _F = 20 mA		V _F			370	mV
	I _F = 200 mA		V _F			600	mV
Diode capacitance	V _R = 0 V, f = 1 MHz		C _D		50		pF
Reverse recovery time	I _F = I _R = 50 mA to 200 mA, recover to 0.1 I _R		t _{rr}		10		ns

Typical Characteristics

T_{amb} = 25 °C unless otherwise specified

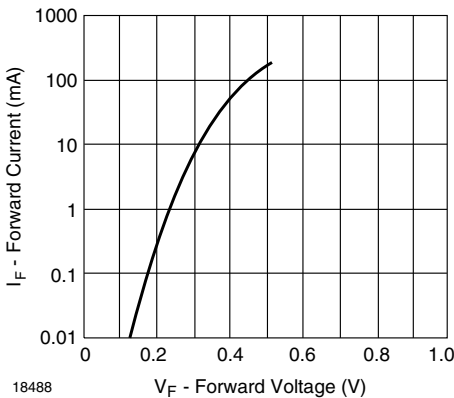


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

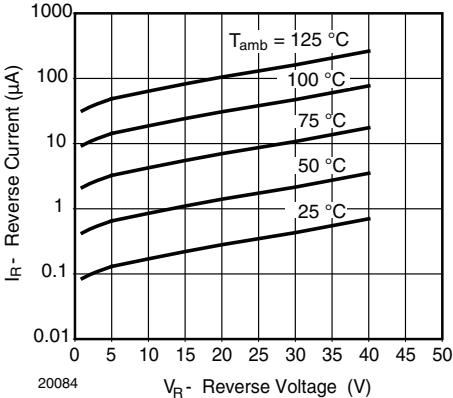


Figure 3. Typical Variation of Reverse Current at Various Temperatures

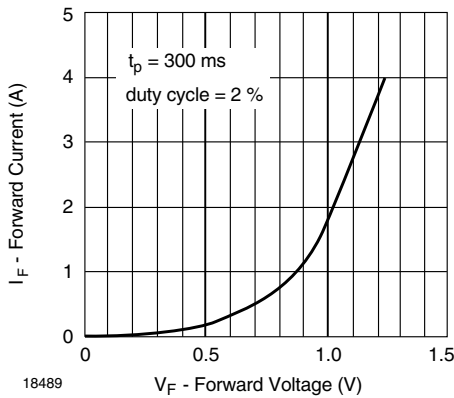


Figure 2. Typical High Current Forward Conduction Curve

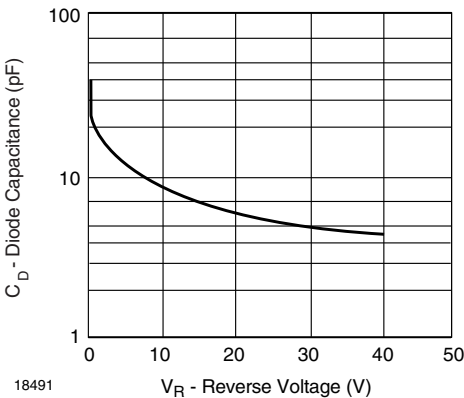


Figure 4. Diode Capacitance vs. Reverse Voltage

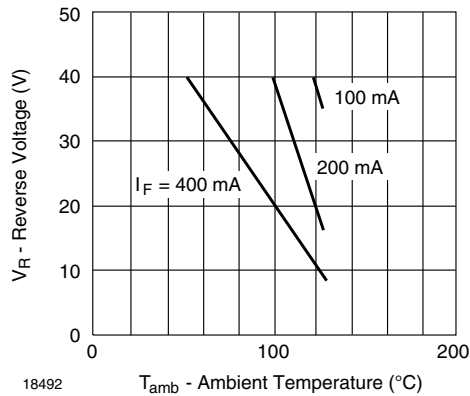
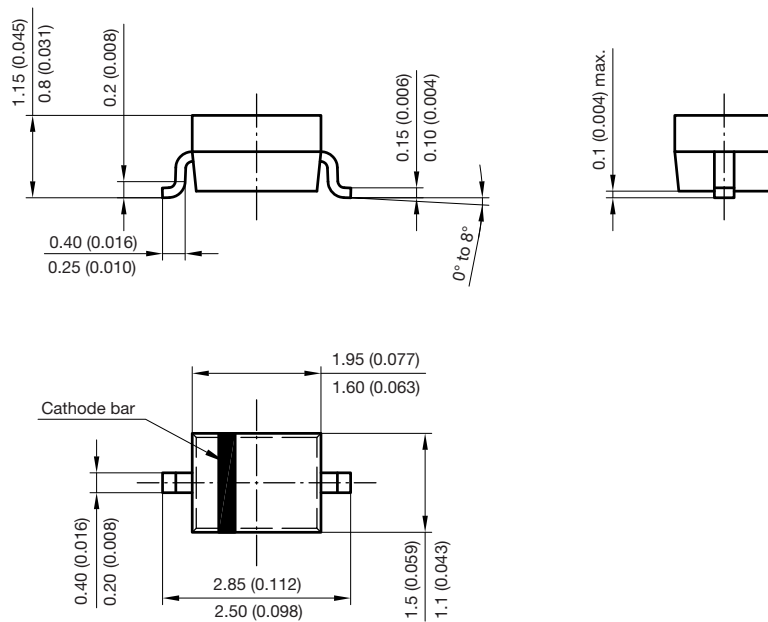
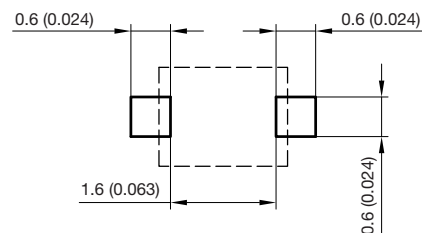


Figure 5. Blocking Voltage Deration vs. Temperature at Various Average Forward Currents

Package Dimensions in millimeters (inches): SOD-323



Foot print recommendation:



Document no.:S8-V-3910.02-001 (4)
 Created - Date: 24.August.2004
 Rev. 5 - Date: 23.Sept.2009
 17443

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