

SD103AWS, SD103BWS, SD103CWS

Vishay Semiconductors

Small Signal Schottky Diodes



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



- oling COMPLIANT
- 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 <u>www.vishay.com/doc?99912</u>

PARTS TABLE					
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS	
SD103AWS	SD103AWS-E3-08 or SD103AWS-E3-18	Single diede	S6	Tape and reel	
	SD103AWS-HE3-08 or SD103AWS-HE3-18	Single diode	30		
SD103BWS	SD103BWS-E3-08 or SD103BWS-E3-18	Cingle diede	S7		
	SD103BWS-HE3-08 or SD103BWS-HE3-18	Single diode	57		
SD103CWS	SD103CWS-E3-08 or SD103CWS-E3-18	Single diede	S8		
	SD103CWS-HE3-08 or SD103CWS-HE3-18	Single diode	30	1	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		SD103AWS	V _{RRM}	40	V	
Repetitive peak reverse voltage		SD103BWS	V _{RRM}	30	V	
		SD103CWS	V _{RRM}	20	V	
Forward continuous current ⁽¹⁾			I _F	350	mA	
Power dissipation ⁽¹⁾			P _{tot}	200	mW	
Single cycle surge	10 µs square wave		I _{FS;M}	2	A	

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	500	K/W		
Junction temperature		Tj	125	°C		
Operating temperature range		T _{op}	-55 to +125	°C		
Storage temperature range		T _{stg}	-55 to +150	°C		

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

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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	I _R			5	μA
	V _R = 20 V	SD103BWS	I _R			5	μA
	V _R = 10 V	SD103CWS	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		CD		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)

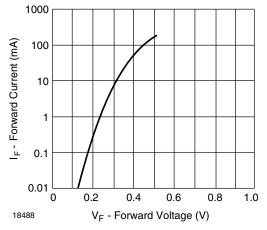


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

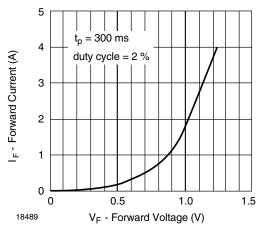
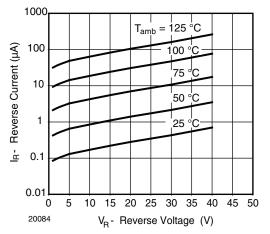
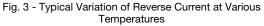


Fig. 2 - Typical High Current Forward Conduction Curve





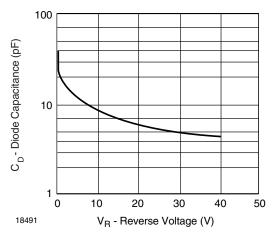


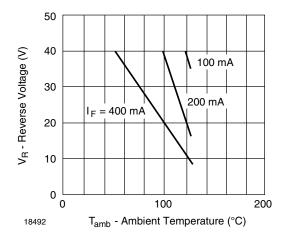
Fig. 4 - Diode Capacitance vs. Reverse Voltage

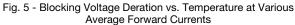
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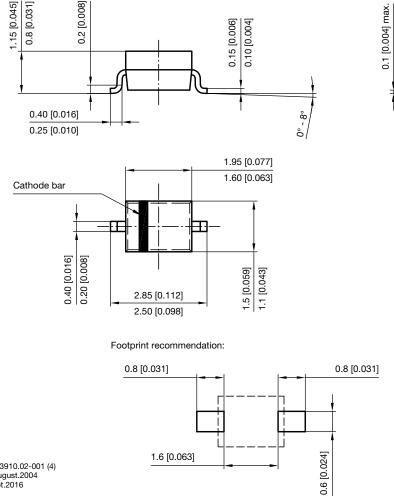
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PACKAGE DIMENSIONS in millimeters (inches): SOD-323



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