

Small Signal Schottky Diodes



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

FEATURES

- The SD103 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
- 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 available
- Base P/N-G3 - green, commercial grade
- Base P/N-HG3 - green, AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN FREE
GREEN
(5-2008)

PARTS TABLE					
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS	
SD103AWS-G	SD103AWS-G3-08 or SD103AWS-G3-18	Single diode	Z6	Tape and reel	
	SD103AWS-HG3-08 or SD103AWS-HG3-18				
SD103BWS-G	SD103BWS-G3-08 or SD103BWS-G3-18	Single diode	Z7	Tape and reel	
	SD103BWS-HG3-08 or SD103BWS-HG3-18				
SD103CWS-G	SD103CWS-G3-08 or SD103CWS-G3-18	Single diode	Z8		
	SD101CWS-HG3-08 or SD101CWS-HG3-18				

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD103AWS-G	V_{RRM}	40	V
		SD103BWS-G	V_{RRM}	30	V
		SD103CWS-G	V_{RRM}	20	V
Forward continuous current ⁽¹⁾			I_F	350	mA
Single cycle surge	10 μs square wave		I_{FSM}	2	A
Power dissipation ⁽¹⁾			P_{tot}	200	mW

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 ⁽¹⁾		R_{thJA}	500	K/W
Junction temperature		T_j	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

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-G	I_R			5	μA
	$V_R = 20 \text{ V}$	SD103BWS-G	I_R			5	μA
	$V_R = 10 \text{ V}$	SD103CWS-G	I_R			5	μA
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 mA , recover to $0.1 I_R$		t_{rr}		10		ns

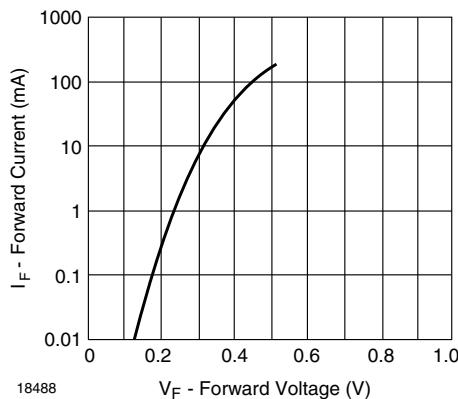
TYPICAL CHARACTERISTICS ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, unless otherwise specified)


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

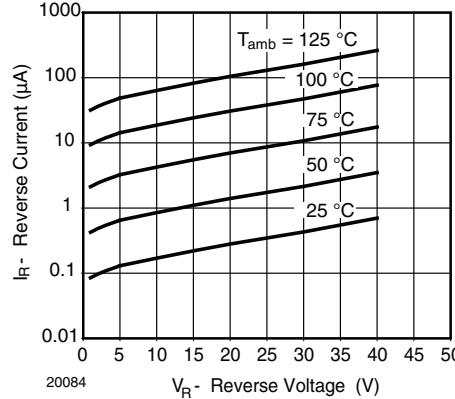


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

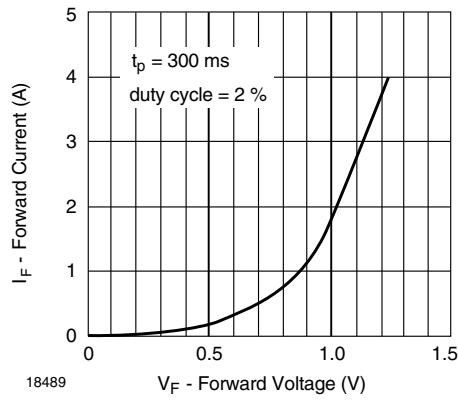


Fig. 2 - Typical High Current Forward Conduction Curve

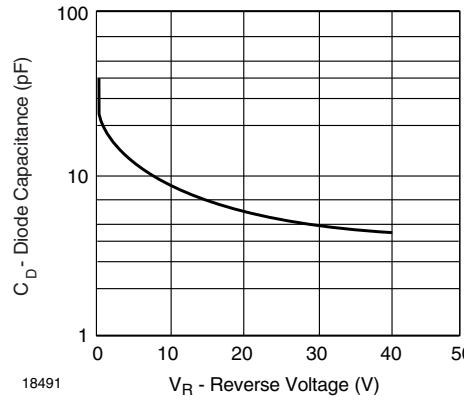


Fig. 4 - Diode Capacitance vs. Reverse Voltage

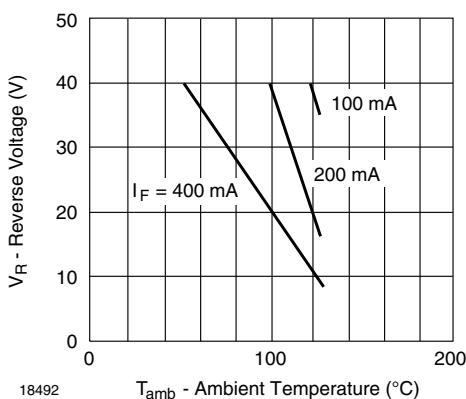
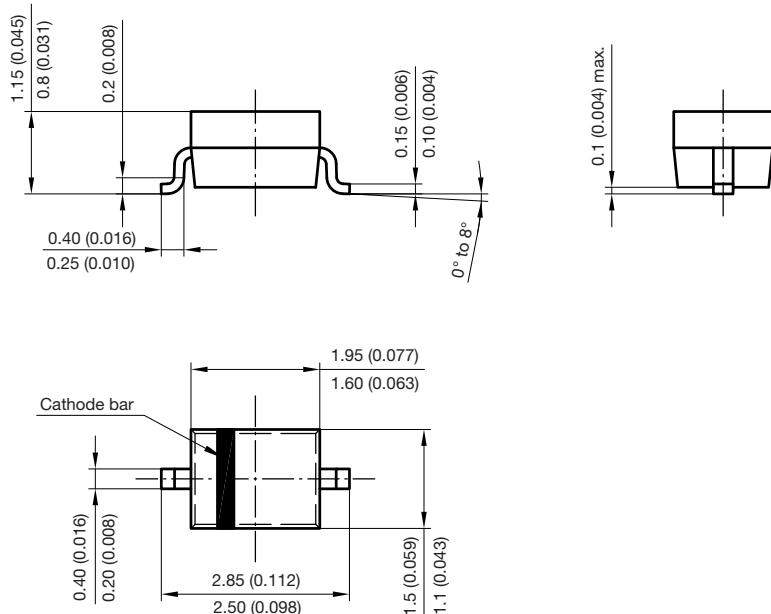
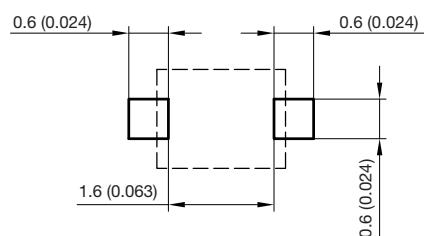


Fig. 5 - Blocking Voltage Deration vs. Temperature at Various Average Forward Currents

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



Foot print recommendation:



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 17443

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