

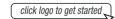
SD103AW-G, SD103BW-G, SD103CW-G

Vishay Semiconductors

Small Signal Schottky Diodes



DESIGN SUPPORT TOOLS





MECHANICAL DATA

Case: SOD-123

Weight: approx. 9.4 mg

Cathode band color: black

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 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



RoHS

COMPLIANT

HALOGEN FREE

(5-2008)

- Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems
- GREEN • The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guardring
- For general purpose applications
- AEC-Q101 gualified available (part number on request)
- Base P/N-G3 green, commercial grade
- · Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

PARTS TABLE						
PART	ORDERING CODE CIRCUIT CONFIGURATI		TYPE MARKING	REMARKS		
SD103AW-G	SD103AW-G3-08 or SD103AW-G3-18	Single	Z6			
SD103BW-G	SD103BW-G3-08 or SD103BW-G3-18	V-G3-08 or SD103BW-G3-18 Single Z7		Tape and reel		
SD103CW-G	SD103CW-G3-08 or SD103CW-G3-18	Single	Z8			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		SD103AW-G	V _{RRM}	40	V	
Repetitive peak reverse voltage		SD103BW-G	V _{RRM}	30	V	
		SD103CW-G	V _{RRM}	20	V	
Forward continuous current ⁽¹⁾			I _F	350	mA	
Power dissipation (infinite heat sink) ⁽¹⁾			P _{tot}	400	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 ($T_{amb} = 25 \text{ °C}$, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	300	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	SD103AW-G	I _R			5	μA
	V _R = 20 V	SD103BW-G	I _R			5	μA
	V _R = 10 V	SD103CW-G	I _R			5	μA
Forward voltage drop	I _F = 20 mA		VF			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	$I_F = I_R = 50 \text{ mA to } 200 \text{ mA},$ recover to 0.1 I_R		t _{rr}		10		ns

TYPICAL CHARACTERISTICS (Tamb = 25 °C, unless otherwise specified)

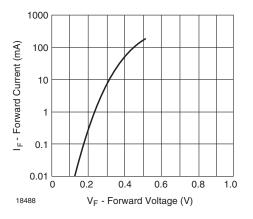


Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

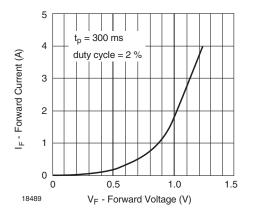


Fig. 2 - Typical High Current Forward Conduction Curve

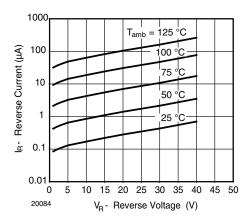


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

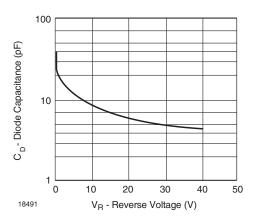


Fig. 4 - Typical Capacitance vs. Reverse Voltage

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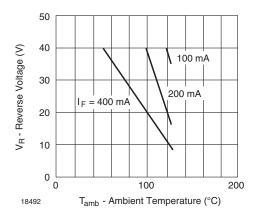
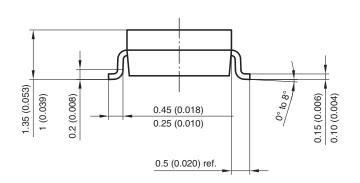
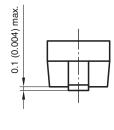
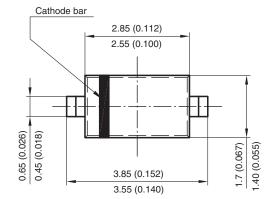


Fig. 5 - Blocking Voltage Deration vs. Temperature at Various Average Forward Currents

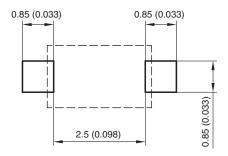
PACKAGE DIMENSIONS in millimeters (inches): SOD-123







Mounting Pad Layout



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