



SD101AW-V, SD101BW-V, SD101CW-V

Vishay Semiconductors

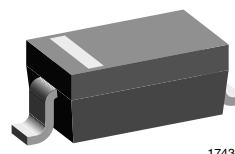
Small Signal Schottky Diodes

Features

- For general purpose applications
- 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
- The SD101 series is a Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring
- These diodes are also available in the Mini-MELF case with type designations LL101A to LL101C, in the DO-35 case with type designations SD101A to SD101C and in the SOD-323 case with type designations SD101AWS-V to SD101CWS-V
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



17431

Mechanical Data

Case: SOD-123

Weight: approx. 10.3 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
SD101AW-V	SD101AW-V-GS18 or SD101AW-V-GS08	SA	Tape and Reel
SD101BW-V	SD101BW-V-GS18 or SD101BW-V-GS08	SB	Tape and Reel
SD101CW-V	SD101CW-V-GS18 or SD101CW-V-GS08	SC	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage		SD101AW-V	V _{RRM}	60	V
		SD101BW-V	V _{RRM}	50	V
		SD101CW-V	V _{RRM}	40	V
Power dissipation (Infinite heatsink)			P _{tot}	400 ¹⁾	mW
Forward continuous current			I _F	30	mA
Maximum single cycle surge	10 μs square wave		I _{FSM}	2	A

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Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	300 ¹⁾	K/W
Junction temperature		T_j	125 ¹⁾	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

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
Reverse breakdown voltage	$I_R = 10\text{ }\mu\text{A}$	SD101AW-V	$V_{(BR)}$	60			V
		SD101BW-V	$V_{(BR)}$	50			V
		SD101CW-V	$V_{(BR)}$	40			V
Leakage current	$V_R = 50\text{ V}$	SD101AW-V	I_R			200	nA
	$V_R = 40\text{ V}$	SD101BW-V	I_R			200	nA
	$V_R = 30\text{ V}$	SD101CW-V	I_R			200	nA
Forward voltage drop	$I_F = 1\text{ mA}$	SD101AW-V	V_F			410	mV
		SD101BW-V	V_F			400	mV
		SD101CW-V	V_F			390	mV
	$I_F = 15\text{ mA}$	SD101AW-V	V_F			1000	mV
		SD101BW-V	V_F			950	mV
		SD101CW-V	V_F			900	mV
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	SD101AW-V	C_D			2	pF
		SD101BW-V	C_D			2.1	pF
		SD101CW-V	C_D			2.2	pF
Reverse recovery time	$I_F = I_R = 5\text{ mA}$, recover to $0.1\text{ }I_R$		t_{rr}			1	ns

Typical Characteristics

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

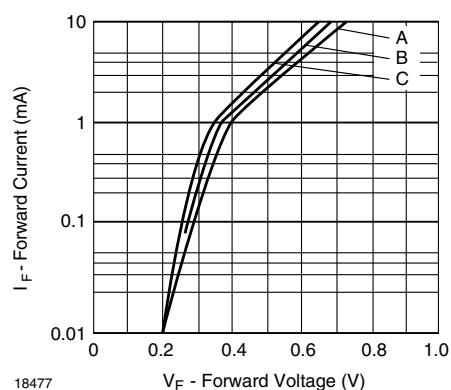


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

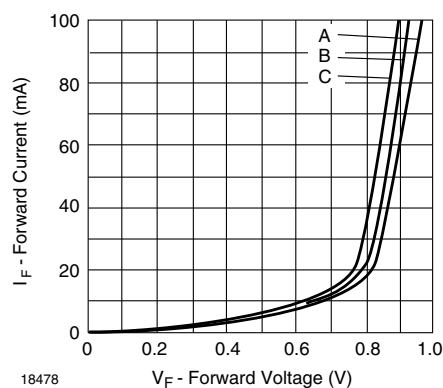


Figure 2. Typical Forward Conduction Curve



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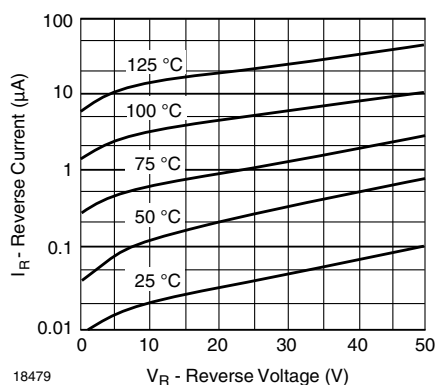


Figure 3. Typical Variation of Reverse Current at Various Temperatures

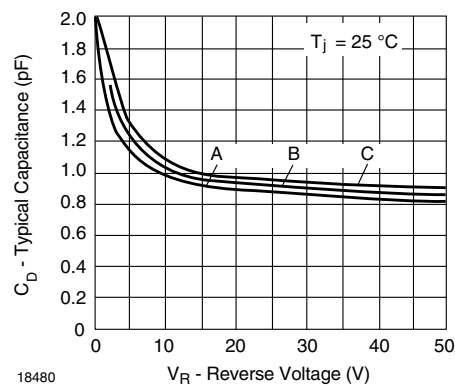
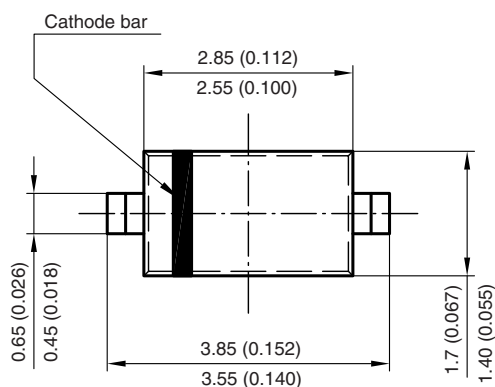
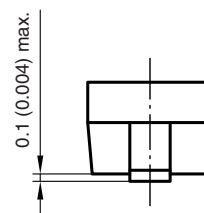
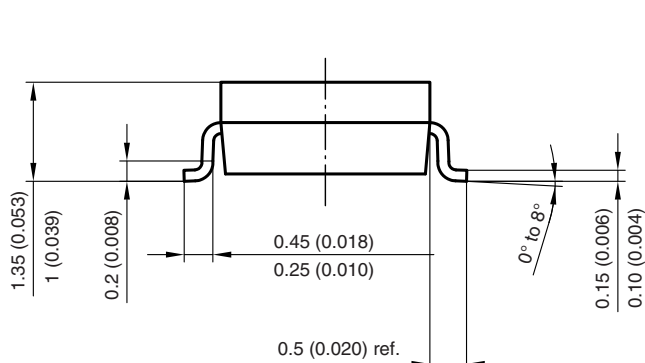
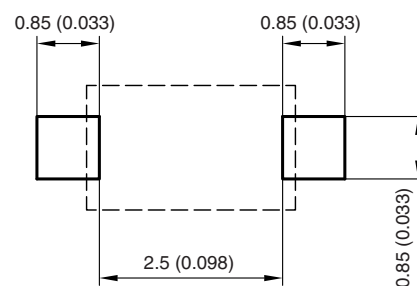


Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage

Package Dimensions in millimeters (inches): SOD-123



Mounting Pad Layout



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