Small Signal Schottky Diodes

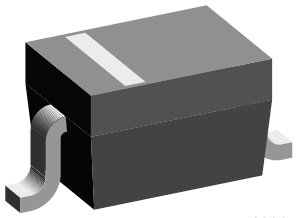
Features

- For general purpose applications
- The SD101 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
- 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-123 case with type designations SD101AW-V to SD101CW-V.
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT



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Mechanical Data

Case: SOD-323

Weight: approx. 4.3 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
SD101AWS-V	SD101AWS-V-GS18 or SD101AWS-V-GS08	SA	Tape and Reel
SD101BWS-V	SD101BWS-V-GS18 or SD101BWS-V-GS08	SB	Tape and Reel
SD101CWS-V	SD101CWS-V-GS18 or SD101CWS-V-GS08	SC	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Peak inverse voltage		SD101AWS-V	V_{RRM}	60	V
		SD101BWS-V	V_{RRM}	50	V
		SD101CWS-V	V_{RRM}	40	V
Power dissipation (Infinite Heat Sink)			P_{tot}	150[1)]	mW
Forward continuous current			I_F	30	mA
Maximum single cycle surge	10 µs square wave		I_{FSM}	2	A

[1)] Valid provided that electrodes are kept at ambient temperature

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	650[1)]	K/W
Junction temperature		T_j	125[1)]	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C

[1)] Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	I_R = 10 µA	SD101AWS-V	$V_{(BR)}$	60			V
		SD101BWS-V	$V_{(BR)}$	50			V
		SD101CWS-V	$V_{(BR)}$	40			V
Leakage current	V_R = 50 V	SD101AWS-V	I_R			200	nA
	V_R = 40 V	SD101BWS-V	I_R			200	nA
	V_R = 30 V	SD101CWS-V	I_R			200	nA
Forward voltage drop	I_F = 1 mA	SD101AWS-V	V_F			410	mV
		SD101BWS-V	V_F			400	mV
		SD101CWS-V	V_F			390	mV
	I_F = 15 mA	SD101AWS-V	V_F			1000	mV
		SD101BWS-V	V_F			950	mV
		SD101CWS-V	V_F			900	mV
Junction capacitance	V_R = 0 V, f = 1 MHz	SD101AWS-V	C_D			2.0	ns
		SD101BWS-V	C_D			2.1	ns
		SD101CWS-V	C_D			2.2	ns
Reverse recovery time	I_F = I_R = 5 mA, recover to 0.1 I_R		t_{rr}			1	ns

Typical Characteristics

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

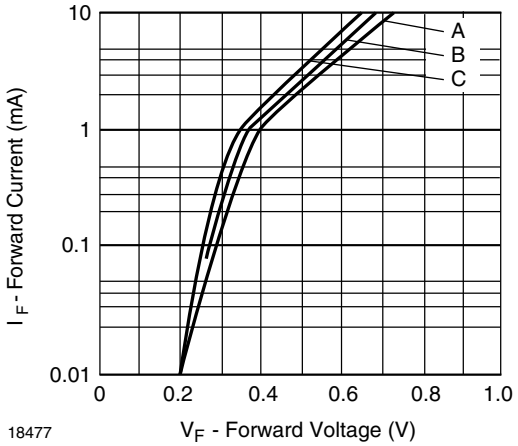

Figure 1. Typical Variation of Forward Current vs. Forward Voltage

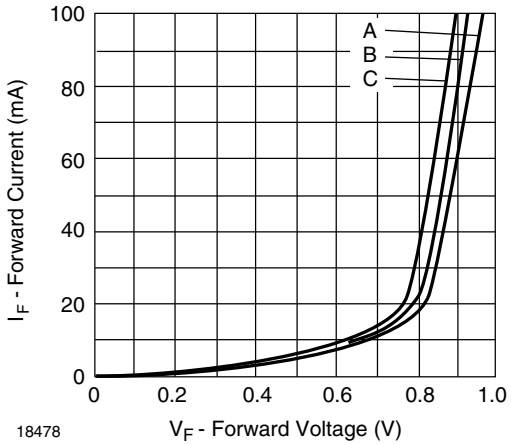

Figure 2. Typical Forward Conduction Curve

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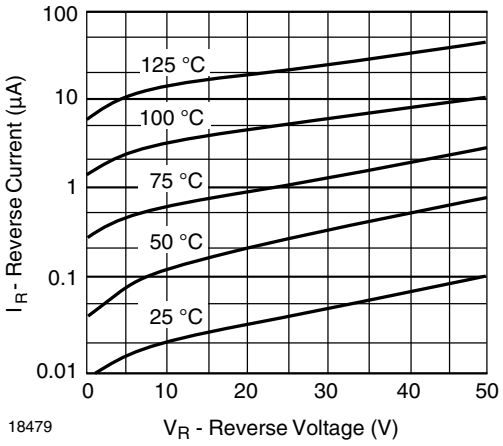


Figure 3. Typical Variation of Reverse Current at Various Temperatures

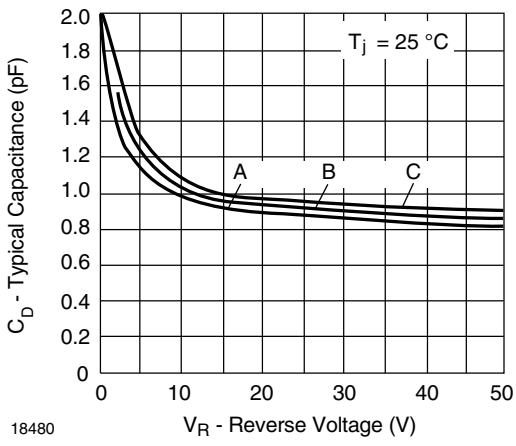
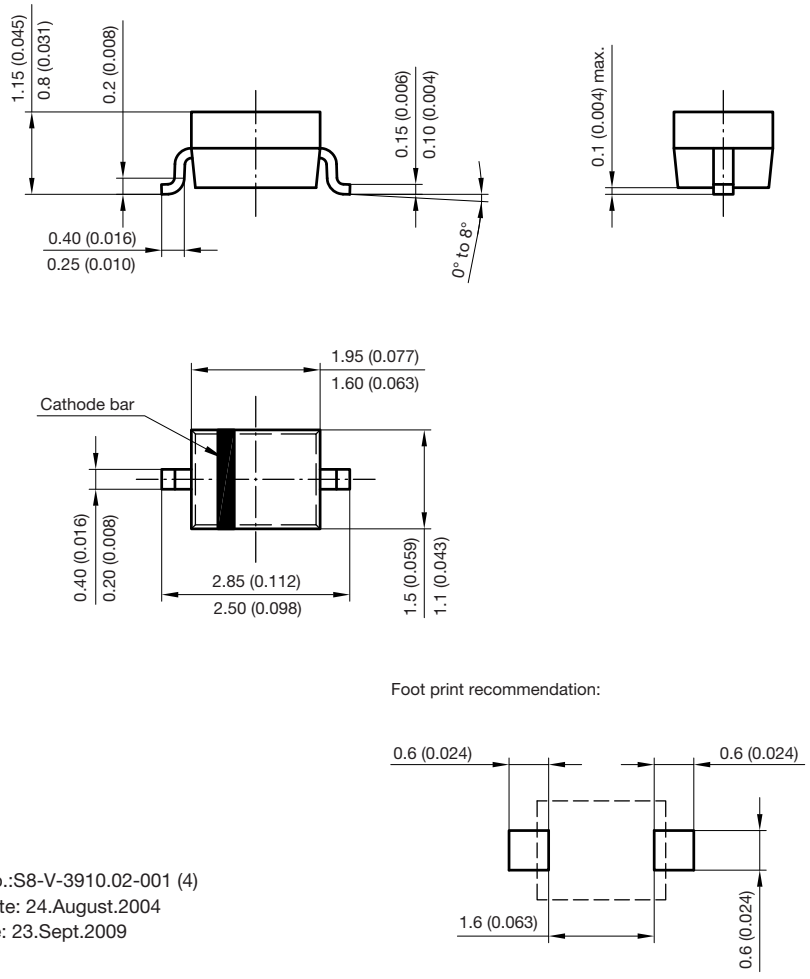


Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage

Package Dimensions in millimeters (inches): **SOD-323**



Foot print recommendation:

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