



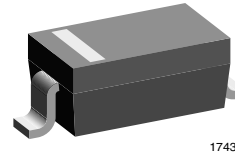
Small Signal Schottky Diodes

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

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 I_R		t_{rr}			1	ns

Typical Characteristics

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

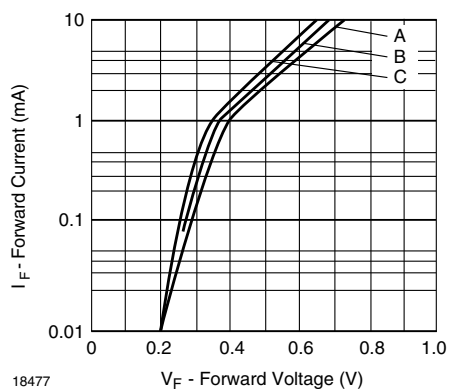


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

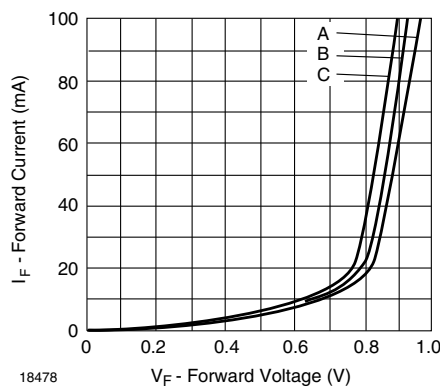


Figure 2. Typical Forward Conduction Curve

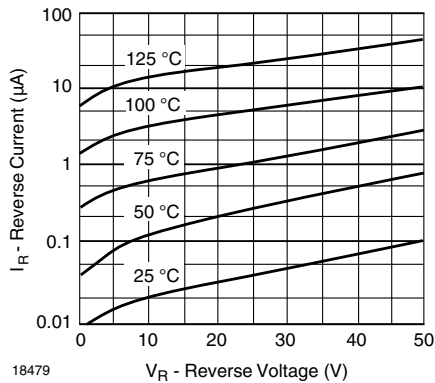


Figure 3. Typical Variation of Reverse Current at Various Temperatures

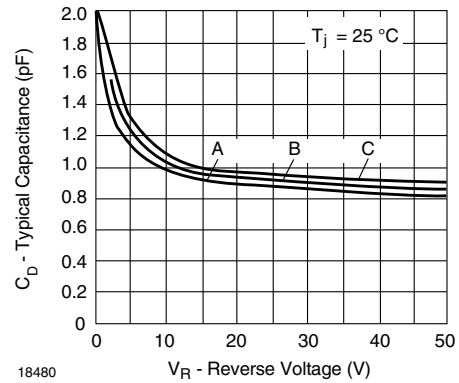
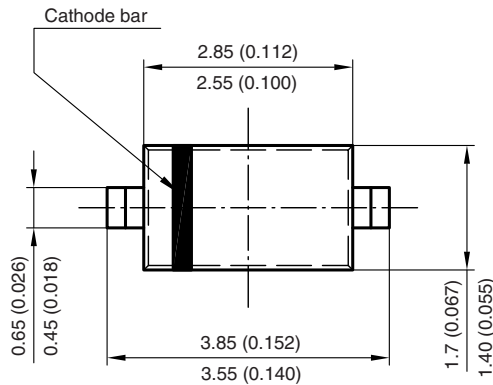
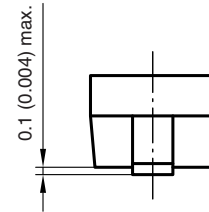
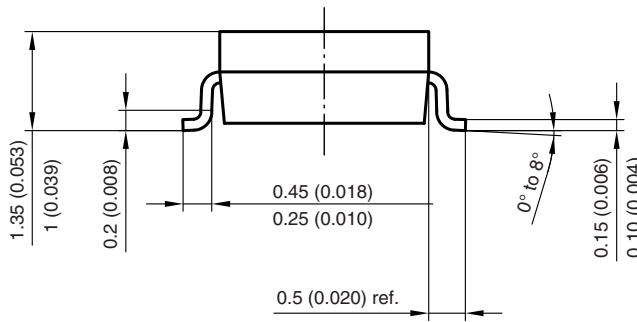
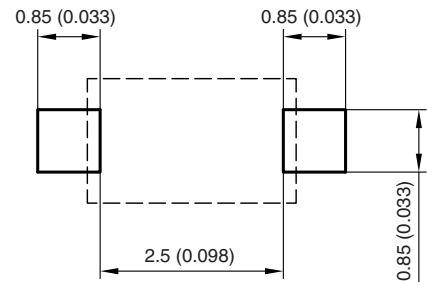


Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage

Package Dimensions in millimeters (inches): SOD-123



Mounting Pad Layout



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