



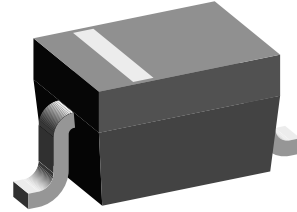
## Small Signal Schottky Diodes

### 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



RoHS COMPLIANT



20145

### 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<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak inverse voltage		SD101AWS-V	V <sub>RRM</sub>	60	V
		SD101BWS-V	V <sub>RRM</sub>	50	V
		SD101CWS-V	V <sub>RRM</sub>	40	V
Power dissipation (Infinite Heat Sink)			P <sub>tot</sub>	150 <sup>1)</sup>	mW
Forward continuous current			I <sub>F</sub>	30	mA
Maximum single cycle surge	10 μs square wave		I <sub>FSM</sub>	2	A

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature

### Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		$R_{thJA}$	650 <sup>1)</sup>	K/W
Junction temperature		$T_j$	125 <sup>1)</sup>	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

<sup>1)</sup> 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	$I_R = 10\text{ }\mu\text{A}$	SD101AWS-V	$V_{(BR)}$	60			V
		SD101BWS-V	$V_{(BR)}$	50			V
		SD101CWS-V	$V_{(BR)}$	40			V
Leakage current	$V_R = 50\text{ V}$	SD101AWS-V	$I_R$			200	nA
	$V_R = 40\text{ V}$	SD101BWS-V	$I_R$			200	nA
	$V_R = 30\text{ V}$	SD101CWS-V	$I_R$			200	nA
Forward voltage drop	$I_F = 1\text{ mA}$	SD101AWS-V	$V_F$			410	mV
		SD101BWS-V	$V_F$			400	mV
		SD101CWS-V	$V_F$			390	mV
	$I_F = 15\text{ mA}$	SD101AWS-V	$V_F$			1000	mV
		SD101BWS-V	$V_F$			950	mV
		SD101CWS-V	$V_F$			900	mV
Junction capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$	SD101AWS-V	$C_D$			2.0	ns
		SD101BWS-V	$C_D$			2.1	ns
		SD101CWS-V	$C_D$			2.2	ns
Reverse recovery time	$I_F = I_R = 5\text{ mA}$ , recover to $0.1\text{ }I_R$		$t_{rr}$			1	ns

### Typical Characteristics

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

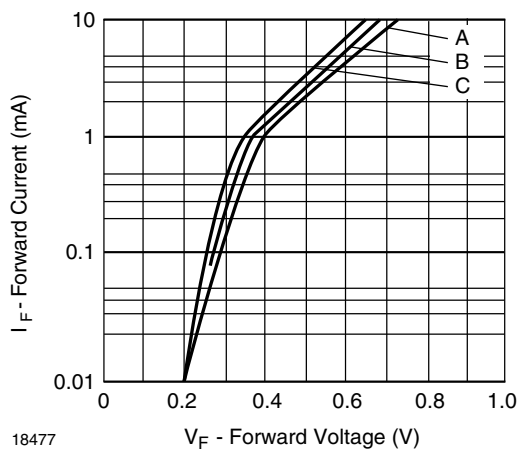


Figure 1. Typical Variation of Forward Current vs. Forward Voltage

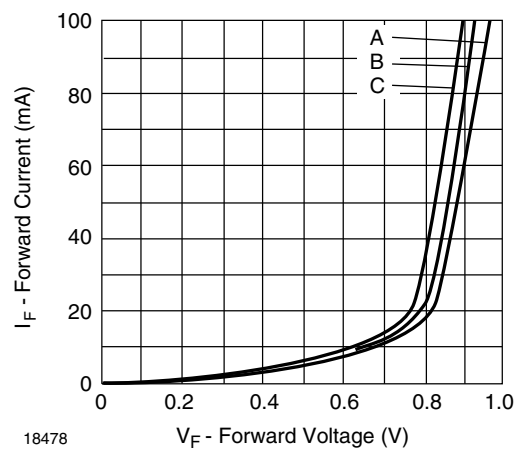


Figure 2. Typical Forward Conduction Curve

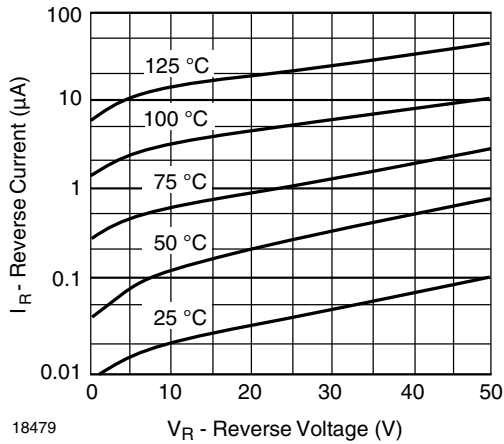


Figure 3. Typical Variation of Reverse Current at Various Temperatures

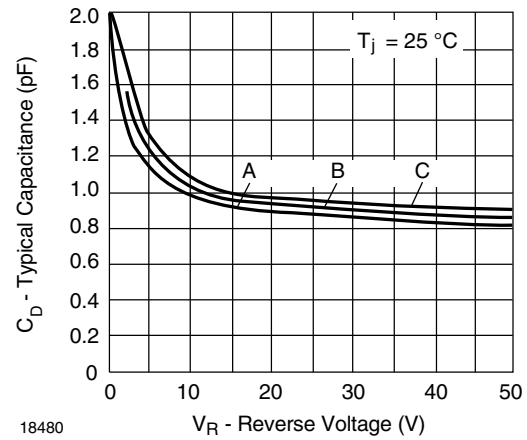
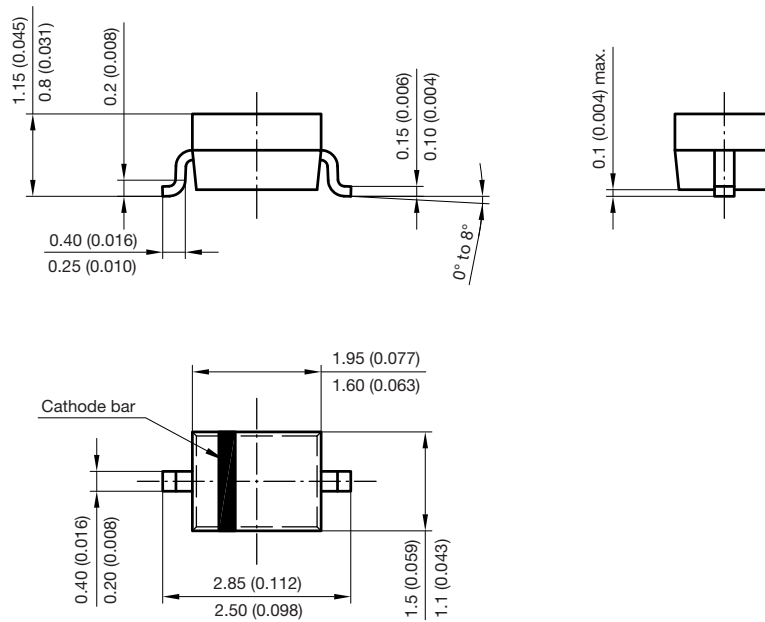
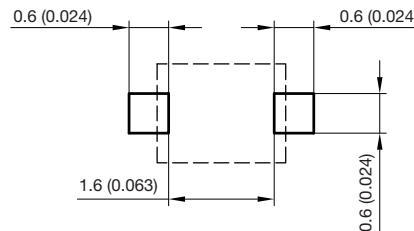


Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage

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

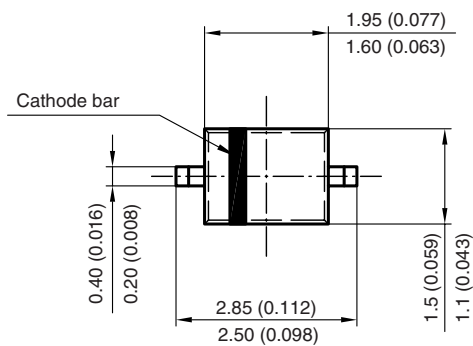
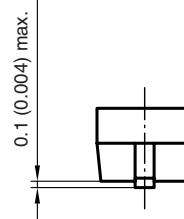
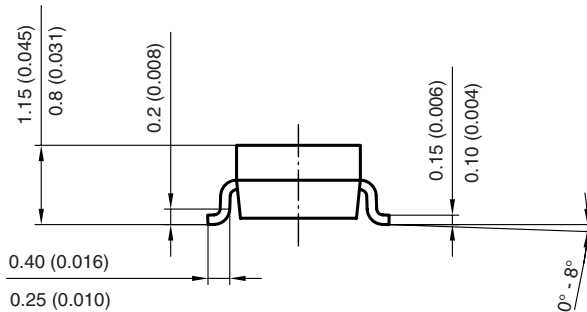


Foot print recommendation:

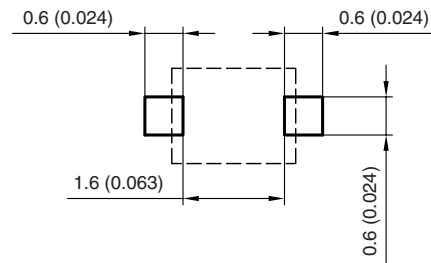


Document no.:S8-V-3910.02-001 (4)  
 Created - Date: 24.August.2004  
 Rev. 5 - Date: 23.Sept.2009  
 17443

### PACKAGE DIMENSIONS in millimeters (inches)



Mounting pad layout



Created - Date: 24. August. 2004  
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17443



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