

## Small Signal Schottky Diodes



### DESIGN SUPPORT TOOLS


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### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 9.4 mg

**Packaging codes/options:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

### 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 guardring
- AEC-Q101 qualified 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](http://www.vishay.com/doc?99912)


**RoHS**
**COMPLIANT**
**HALOGEN FREE**
**GREEN**
*(S-2008)*

### PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
SD101AW-G	SD101AW-G3-08 or SD101AW-G3-18	Single	SK	Tape and reel
SD101BW-G	SD101BW-G3-08 or SD101BW-G3-18	Single	SL	
SD101CW-G	SD101CW-G3-08 or SD101CW-G3-18	Single	SM	

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^{\circ}C$ , unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD101AW-G	$V_{RRM}$	60	V
		SD101BW-G	$V_{RRM}$	50	V
		SD101CW-G	$V_{RRM}$	40	V
Power dissipation (infinite heatsink) <sup>(1)</sup>			$P_{tot}$	400	mW
Forward continuous current			$I_F$	30	mA
Maximum single cycle surge	10 $\mu$ s square wave		$I_{FSM}$	2	A

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

### THERMAL CHARACTERISTICS ( $T_{amb} = 25^{\circ}C$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		$R_{thJA}$	300	K/W
Junction temperature <sup>(1)</sup>		$T_j$	125	°C
Storage temperature range		$T_{stg}$	-65 to +150	°C
Operating temperature range		$T_{op}$	-55 to +125	°C

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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25^\circ C$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 10 \mu A$	SD101AW-G	$V_{(BR)}$	60			V
		SD101BW-G	$V_{(BR)}$	50			V
		SD101CW-G	$V_{(BR)}$	40			V
Leakage current	$V_R = 50 V$	SD101AW-G	$I_R$			200	nA
	$V_R = 40 V$	SD101BW-G	$I_R$			200	nA
	$V_R = 30 V$	SD101CW-G	$I_R$			200	nA
Forward voltage drop	$I_F = 1 mA$	SD101AW-G	$V_F$			410	mV
		SD101BW-G	$V_F$			400	mV
		SD101CW-G	$V_F$			390	mV
	$I_F = 15 mA$	SD101AW-G	$V_F$			1000	mV
		SD101BW-G	$V_F$			950	mV
		SD101CW-G	$V_F$			900	mV
Diode capacitance	$V_R = 0 V, f = 1 MHz$	SD101AW-G	$C_D$			2	pF
		SD101BW-G	$C_D$			2.1	pF
		SD101CW-G	$C_D$			2.2	pF
Reverse recovery time	$I_F = I_R = 5 mA$ , recover to 0.1 $I_R$		$t_{rr}$			1	ns

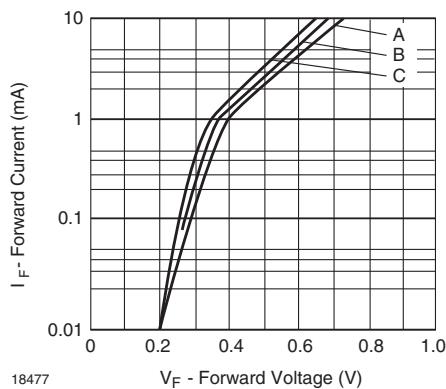
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$ , unless otherwise specified)


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

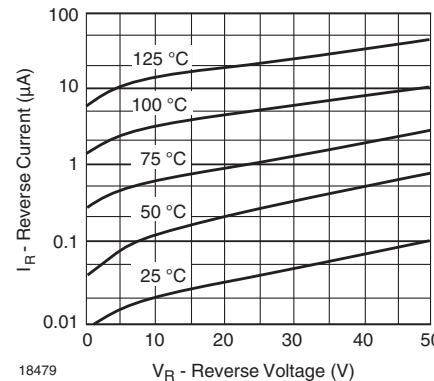


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

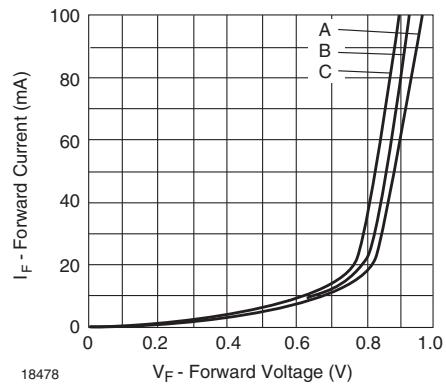


Fig. 2 - Typical Forward Conduction Curve

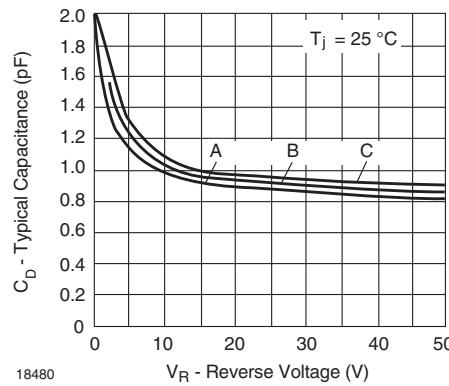
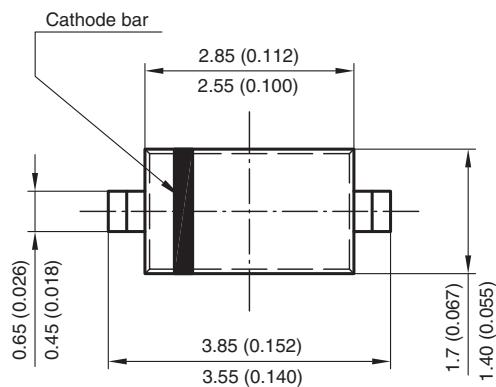
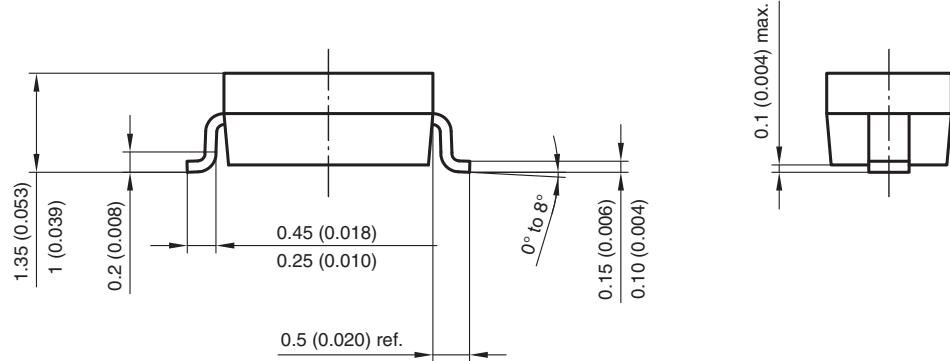
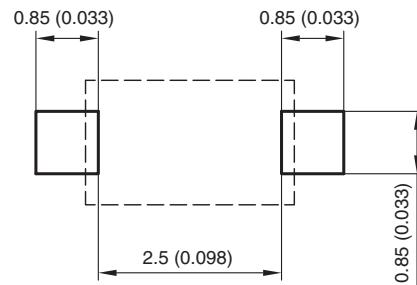


Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-123**

**Mounting Pad Layout**


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