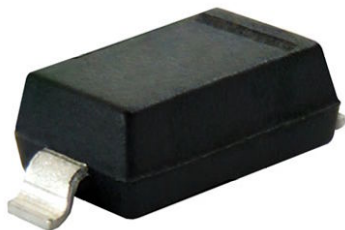




## Small Signal Schottky Diodes



## DESIGN SUPPORT TOOLS

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## MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 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 guarding
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

RoHS  
COMPLIANT

## PARTS TABLE

PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
SD101AW	SD101AW-E3-08 or SD101AW-E3-18	Single	SA	Tape and reel
	SD101AW-HE3-08 or SD101AW-HE3-18			
SD101BW	SD101BW-E3-08 or SD101BW-E3-18	Single	SB	
	SD101BW-HE3-08 or SD101BW-HE3-18			
SD101CW	SD101CW-E3-08 or SD101CW-E3-18	Single	SC	
	SD101CW-HE3-08 or SD101CW-HE3-18			

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

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD101AW	$V_{RRM}$	60	V
		SD101BW	$V_{RRM}$	50	V
		SD101CW	$V_{RRM}$	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 $\mu\text{s}$ square wave		$I_{FSM}$	2	A

## Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperatureTHERMAL CHARACTERISTICS ( $T_{amb} = 25^{\circ}\text{C}$ , 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	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	-55 to +125	$^{\circ}\text{C}$

## Note

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

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

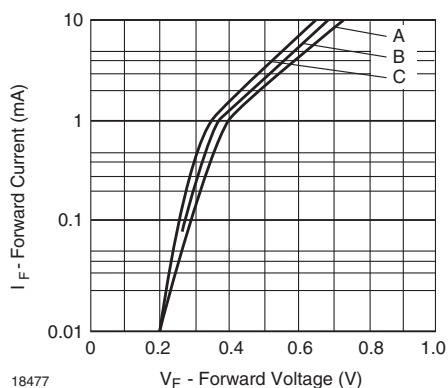
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

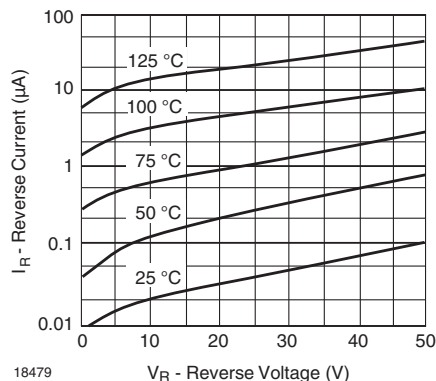


Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

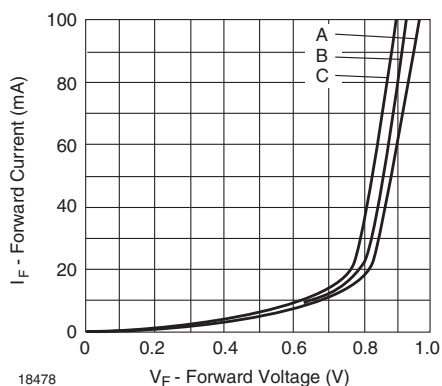


Fig. 2 - Typical Forward Conduction Curve

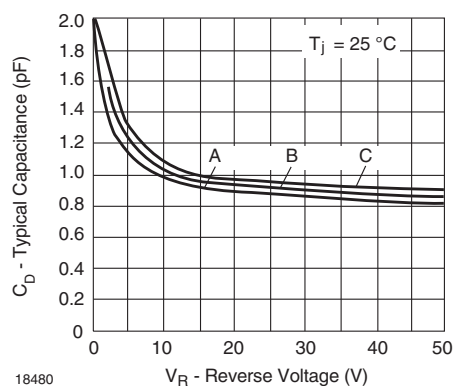
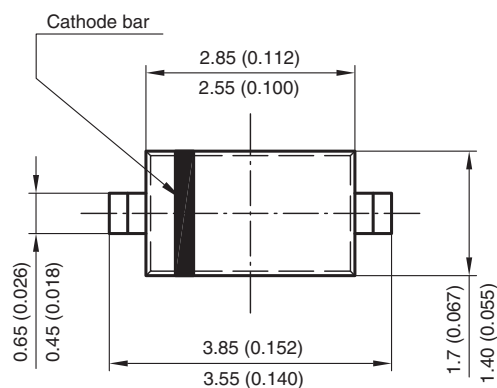
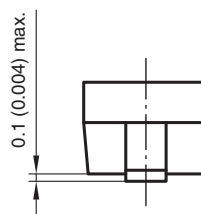
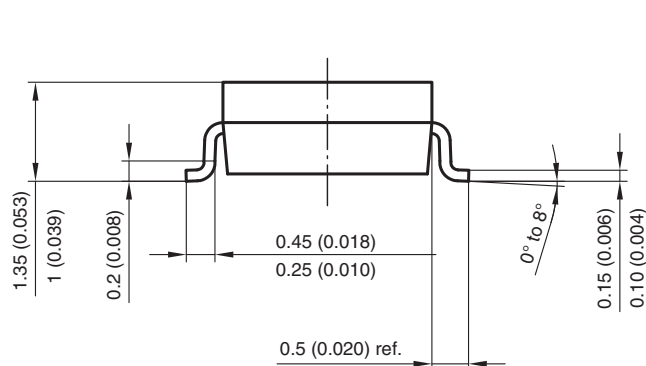


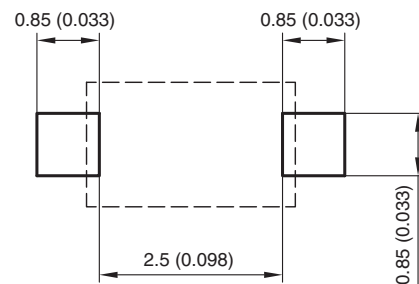
Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage



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



Mounting Pad Layout



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17432



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