



## Small Signal Schottky Diodes



### MECHANICAL DATA

**Case:** SOD-323

**Weight:** approx. 4.3 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 SD101 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guardring
- 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
- AEC-Q101 qualified
- 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	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
SD101AWS	SD101AWS-E3-08 or SD101AWS-E3-18	Single diode	SA	Tape and reel
	SD101AWS-HE3-08 or SD101AWS-HE3-18			
SD101BWS	SD101BWS-E3-08 or SD101BWS-E3-18	Single diode	SB	
	SD101BWS-HE3-08 or SD101BWS-HE3-18			
SD101CWS	SD101CWS-E3-08 or SD101CWS-E3-18	Single diode	SC	
	SD101CWS-HE3-08 or SD101CWS-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		SD101AWS	V <sub>RRM</sub>	60	V
		SD101BWS	V <sub>RRM</sub>	50	V
		SD101CWS	V <sub>RRM</sub>	40	V
Power dissipation (infinite heatsink) <sup>(1)</sup>			P <sub>tot</sub>	150	mW
Forward continuous current			I <sub>F</sub>	30	mA
Maximum single cycle surge	10 μs square wave		I <sub>FSM</sub>	2	A

### Note

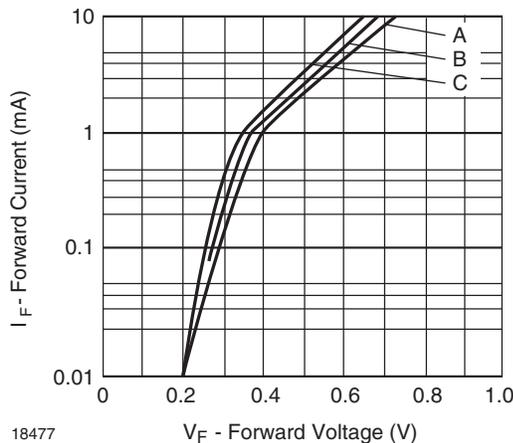
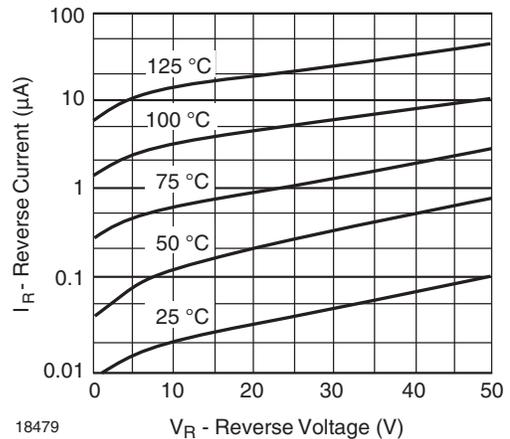
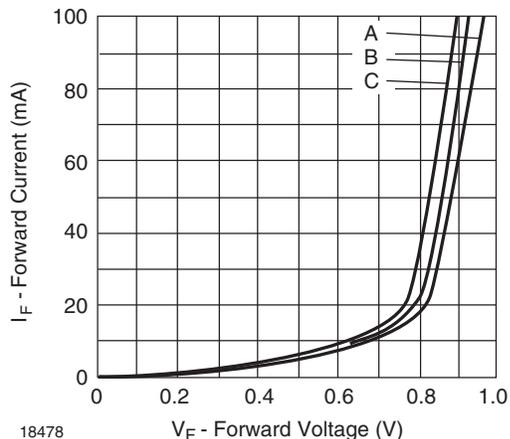
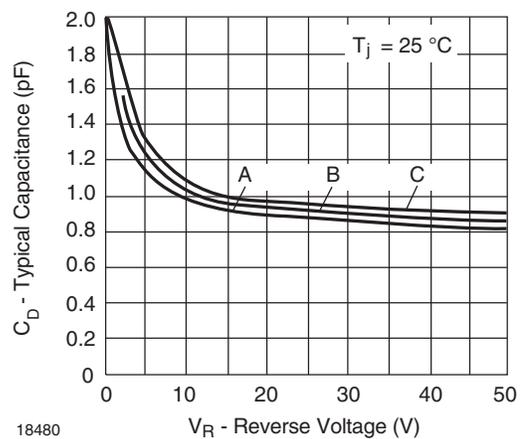
<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		R <sub>thJA</sub>	650	K/W
Junction temperature <sup>(1)</sup>		T <sub>j</sub>	125	°C
Operating temperature range		T <sub>op</sub>	- 55 to + 125	°C
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C

### Note

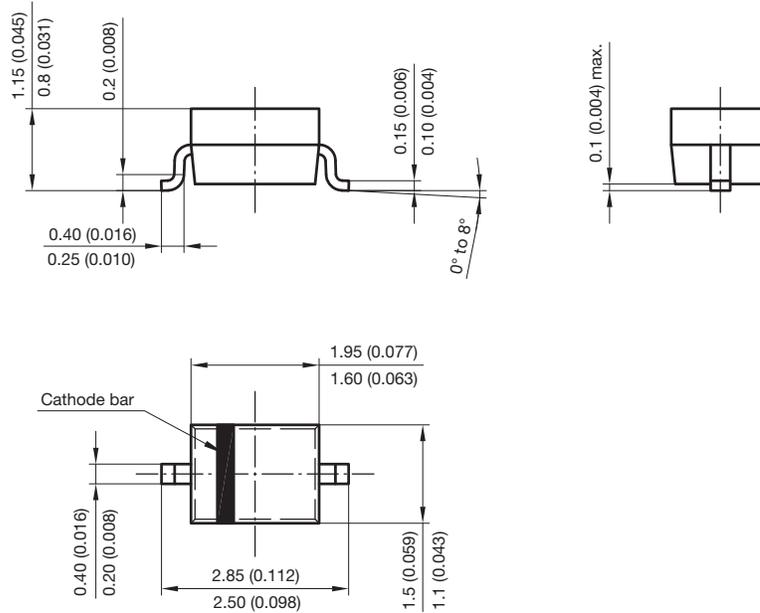
<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

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

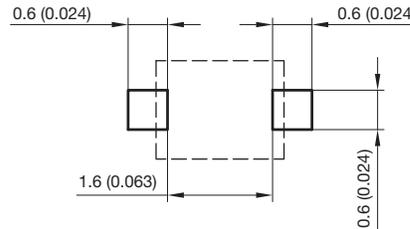
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

 18477  
 Fig. 1 - Typical Variation of Forward Current vs. Forward Voltage

 18479  
 Fig. 3 - Typical Variation of Reverse Current at Various Temperatures

 18478  
 Fig. 2 - Typical Forward Conduction Curve

 18480  
 Fig. 4 - Typical Capacitance Curve as a Function of Reverse Voltage



## PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Foot print recommendation:



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 17443



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