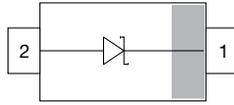




Small Signal Schottky Diodes



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 guarding
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level (MSL) 1
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3_A - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: SOD-323

Weight: approx. 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

PARTS TABLE						
PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
SD101AWS	SD101AWS-E3-08	No	1A	Single	3000 (8 mm tape on 7" reel)	15 000
	SD101AWS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	SD101AWS-E3-18	No				
	SD101AWS-HE3_A-18	Yes				
SD101BWS	SD101BWS-E3-08	No	1B	Single	3000 (8 mm tape on 7" reel)	15 000
	SD101BWS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	SD101BWS-E3-18	No				
	SD101BWS-HE3_A-18	Yes				
SD101CWS	SD101CWS-E3-08	No	1C	Single	3000 (8 mm tape on 7" reel)	15 000
	SD101CWS-HE3_A-08	Yes			10 000 (8 mm tape on 13" reel)	10 000
	SD101CWS-E3-18	No				
	SD101CWS-HE3_A-18	Yes				

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

Note

⁽¹⁾ Infinite heatsink



THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction lead	Infinite heatsink	R_{thJL}	650	K/W
Maximum junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	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
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	SD101AWS	C_D		2	pF
		SD101BWS	C_D		2.1	pF
		SD101CWS	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)

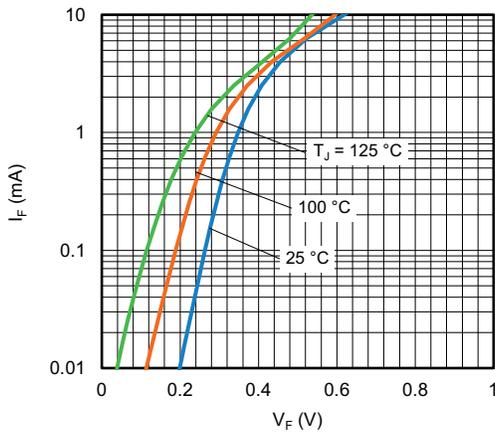


Fig. 1 - Typical Forward Current vs. Forward Voltage

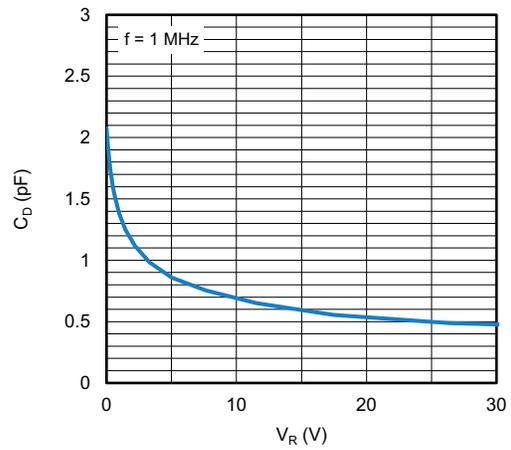


Fig. 3 - Typical Capacitance vs. Reverse Voltage

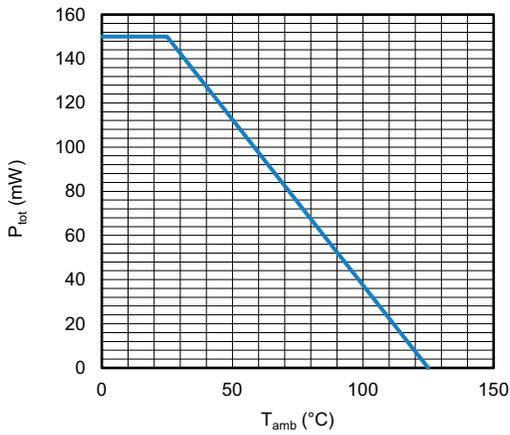


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

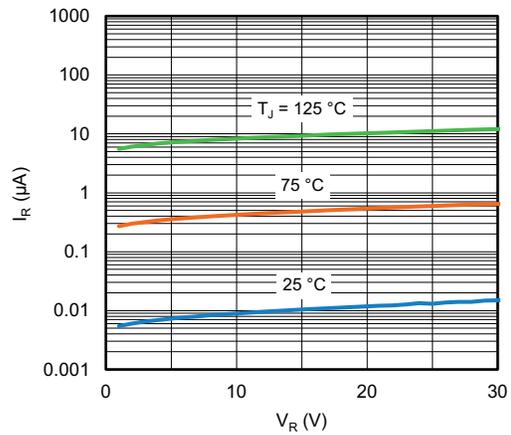
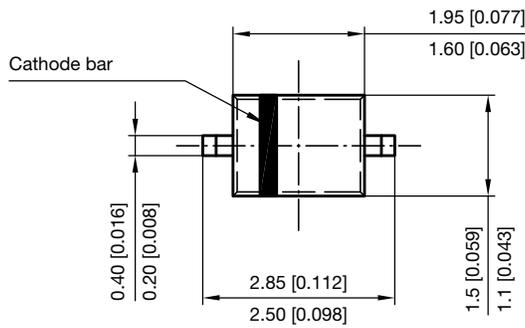
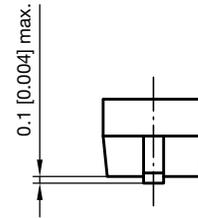
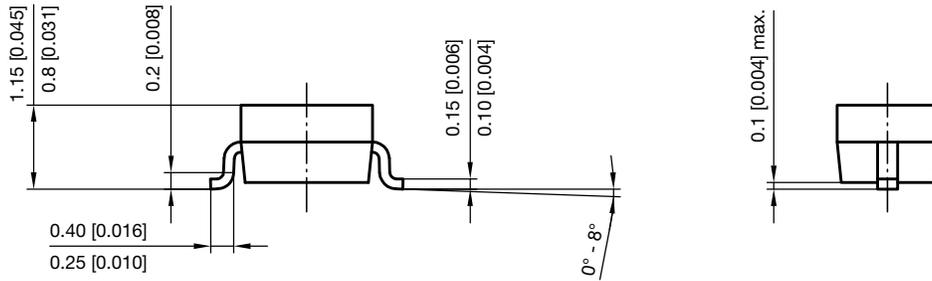


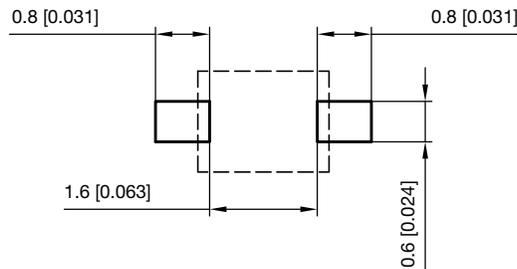
Fig. 4 - Typical Reverse Leakage vs. Reverse Voltage



PACKAGE DIMENSIONS in millimeters (inches) SOD-323



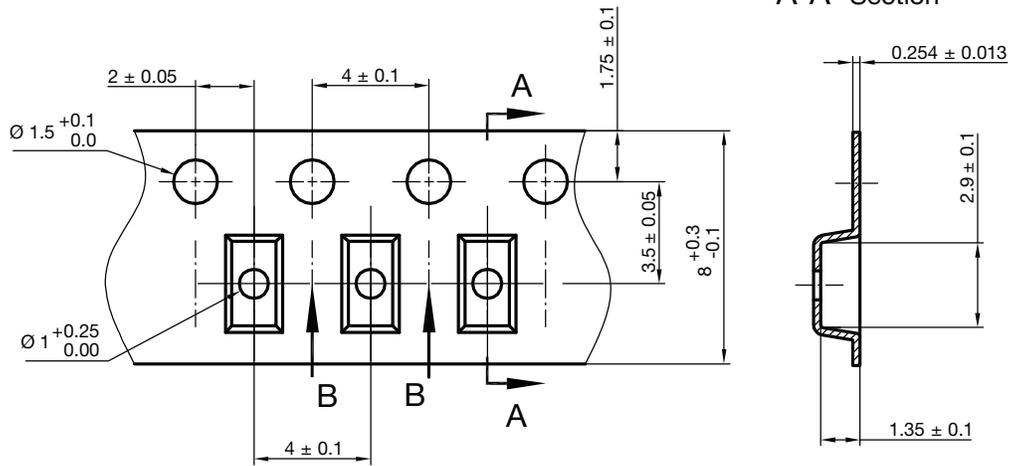
Footprint recommendation:



Document no.: S8-V-3910.02-001 (4)
 Created - Date: 24.August.2004
 Rev. 6 - Date: 23.Sept.2016
 22771

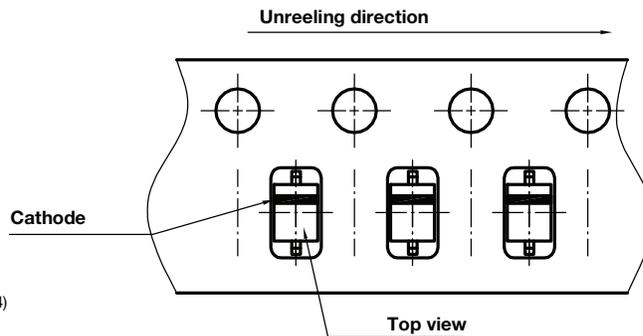


CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-002 (4)
Created - Date: 09. Feb. 2010
22824

ORIENTATION IN CARRIER TAPE SOD-323



Document no.: S8-V-3717.07-003 (4)
Created - Date: 09. Feb. 2010
22772



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.