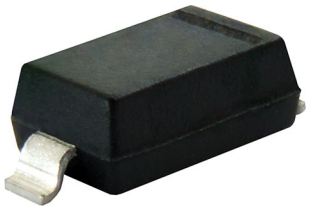
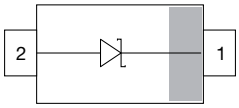
Small Signal Schottky Diodes





FEATRUES

- 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
- 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

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

LINKS TO ADDITIONAL RESOURCES

3D Models | Models | Marking | Parametric Search | Order Samples

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				
	SD101AWS-E3-18	No			10 000 (8 mm tape on 13” reel)	10 000
	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				
	SD101BWS-E3-18	No			10 000 (8 mm tape on 13” reel)	10 000
	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				
	SD101CWS-E3-18	No			10 000 (8 mm tape on 13” reel)	10 000
	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 °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	°C
Storage temperature range		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**MAX.**	**UNIT**
Reverse breakdown voltage	I_R = 10 µA	SD101AWS	$V_{(BR)}$	60		V
		SD101BWS	$V_{(BR)}$	50		V
		SD101CWS	$V_{(BR)}$	40		V
Leakage current	V_R = 50 V	SD101AWS	I_R		200	nA
	V_R = 40 V	SD101BWS	I_R		200	nA
	V_R = 30 V	SD101CWS	I_R		200	nA
Forward voltage drop	I_F = 1 mA	SD101AWS	V_F		410	mV
		SD101BWS	V_F		400	mV
		SD101CWS	V_F		390	mV
	I_F = 15 mA	SD101AWS	V_F		1000	mV
		SD101BWS	V_F		950	mV
		SD101CWS	V_F		900	mV
Diode capacitance	V_R = 0 V, f = 1 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 mA, recover to 0.1 I_R		t_{rr}		1	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

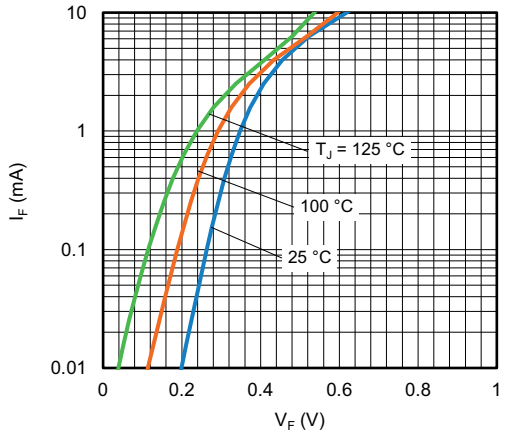


Fig. 1 - Typical Forward Current vs. Forward Voltage

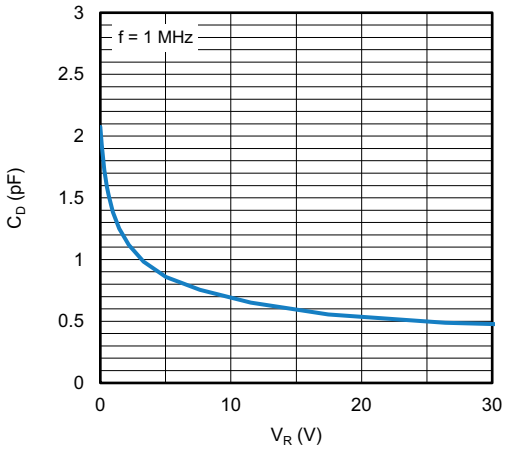


Fig. 3 - Typical Capacitance vs. Reverse Voltage

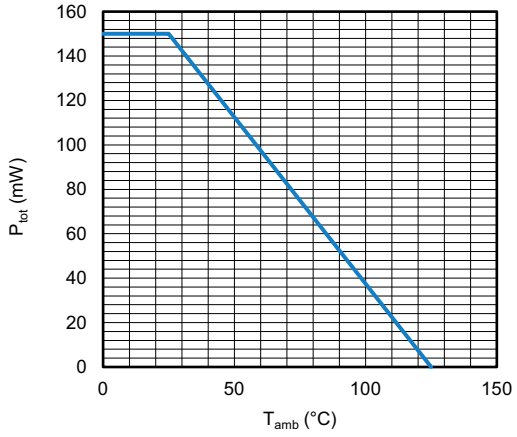


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

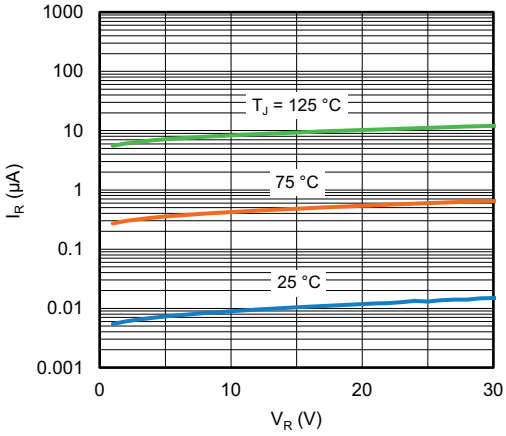
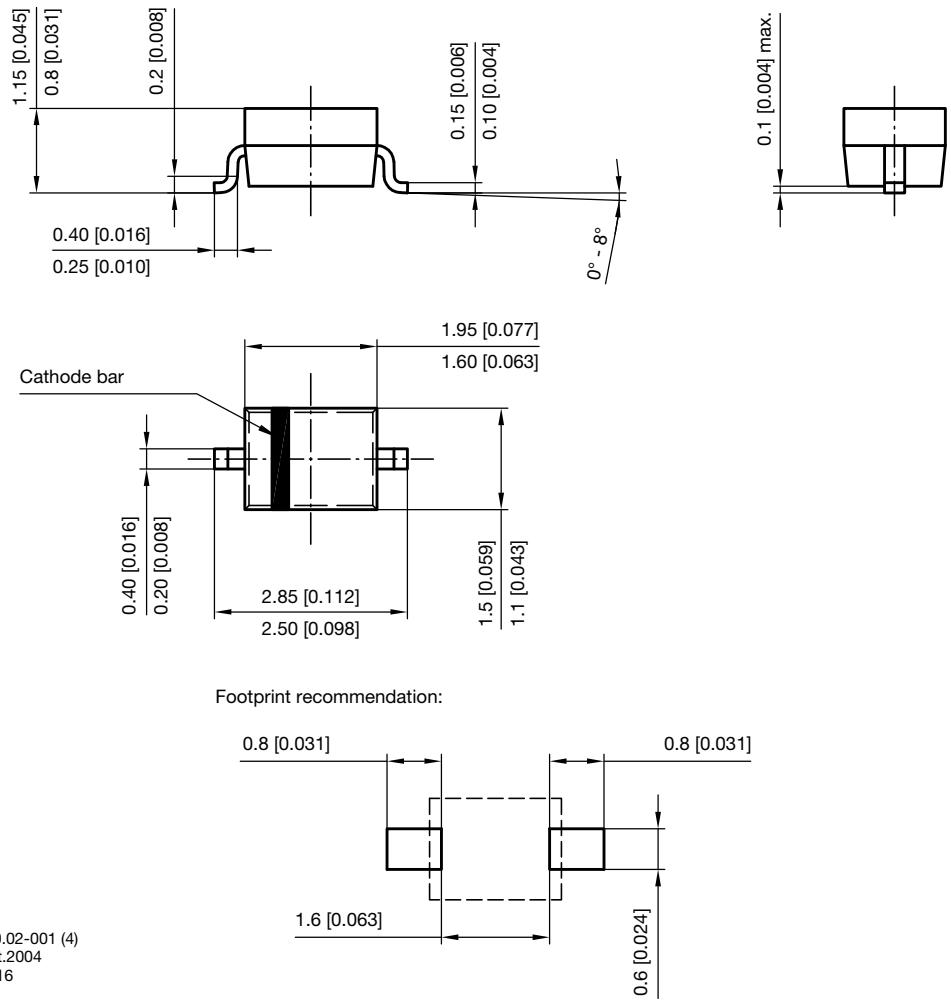


Fig. 4 - Typical Reverse Leakage vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches) **SOD-323**



Footprint recommendation:

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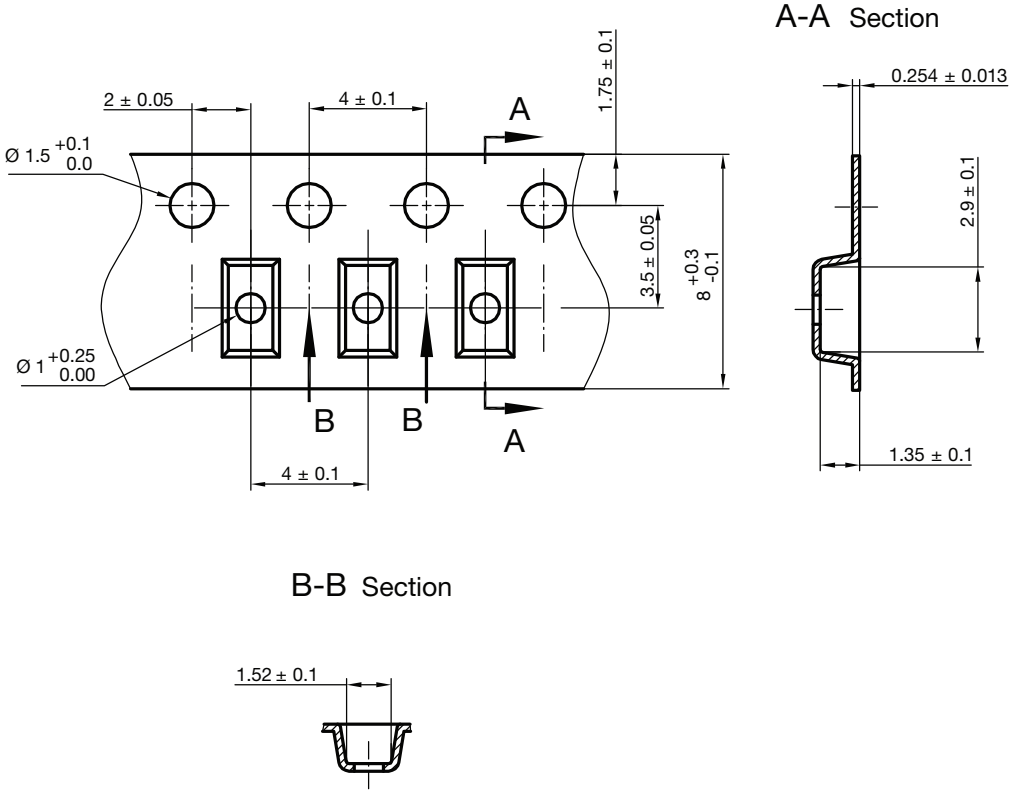
CARRIER TAPE SOD-323



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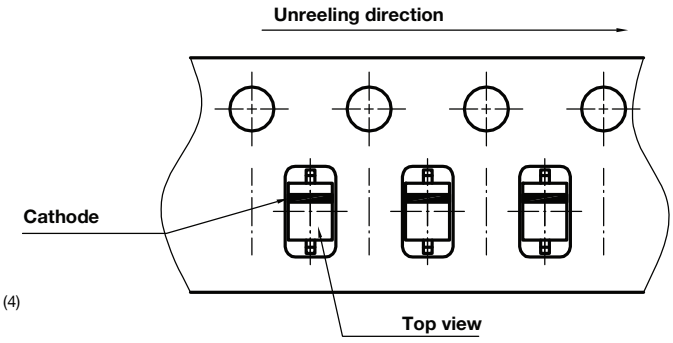
ORIENTATION IN CARRIER TAPE SOD-323



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