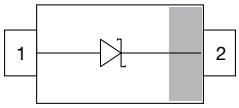
Small Signal Schottky Diodes



LINKS TO ADDITIONAL RESOURCES

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

MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.6 mg

Packaging codes/options:

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

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

FEATRUES

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

- 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 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

PARTS TABLE

PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
SD101AW	SD101AW-E3-08	no	SK	Single	3 000 (8 mm tape on 7” reel)	15 000
	SD101AW-HE3_A-08	yes				
	SD101AW-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	SD101AW-HE3_A-18	yes				
SD101AW	SD101BW-E3-08	no	SL	Single	3 000 (8 mm tape on 7” reel)	15 000
	SD101BW-HE3_A-08	yes				
	SD101BW-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	SD101BW-HE3_A-18	yes				
SD101CW	SD101CW-E3-08	no	SM	Single	3 000 (8 mm tape on 7” reel)	15 000
	SD101CW-HE3_A-08	yes				
	SD101CW-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	SD101CW-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		SD101AW	V_{RRM}	60	V
		SD101BW	V_{RRM}	50	V
		SD101CW	V_{RRM}	40	V
Power dissipation	on FR-4 board with recommended soldering footprint		P_{tot}	230	mW
	Infinite heatsink			330	mW
Forward continuous current (1)			I_F	100	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 to ambient air	according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R_{thJA}	420	K/W
Thermal resistance junction lead	Infinite heatsink	R_{thJL}	300	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.**	**TYP.**	**MAX.**	**UNIT**
Reverse breakdown voltage	I_R = 10 µA	SD101AW	$V_{(BR)}$	60			V
		SD101BW	$V_{(BR)}$	50			V
		SD101CW	$V_{(BR)}$	40			V
Leakage current	V_R = 50 V	SD101AW	I_R			200	nA
	V_R = 40 V	SD101BW	I_R			200	nA
	V_R = 30 V	SD101CW	I_R			200	nA
Forward voltage drop	I_F = 1 mA	SD101AW	V_F			410	mV
		SD101BW	V_F			400	mV
		SD101CW	V_F			390	mV
	I_F = 15 mA	SD101AW	V_F			1000	mV
		SD101BW	V_F			950	mV
		SD101CW	V_F			900	mV
Diode capacitance	V_R = 0 V, f = 1 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 mA, recover to 0.1 I_R		t_{rr}			1	ns

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

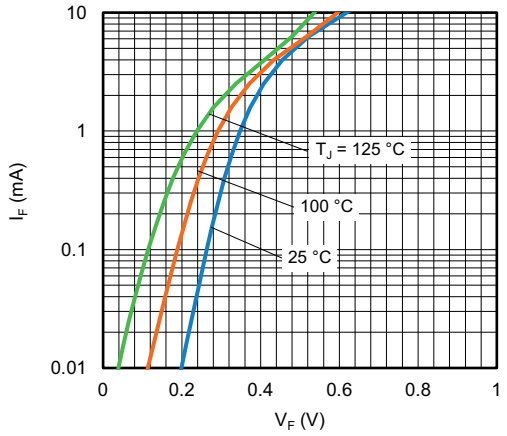


Fig. 1 - Typical Forward Current vs. Forward Voltage

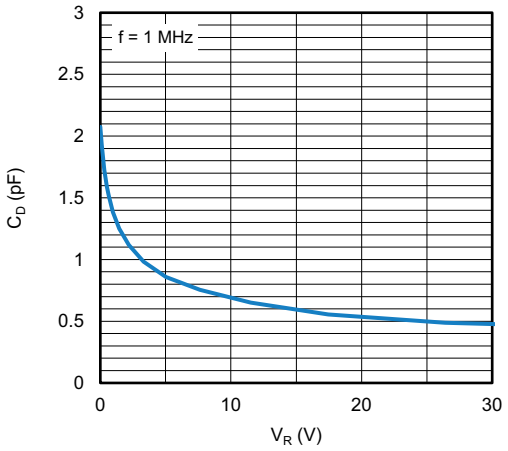


Fig. 3 - Typical Capacitance vs. Reverse Voltage

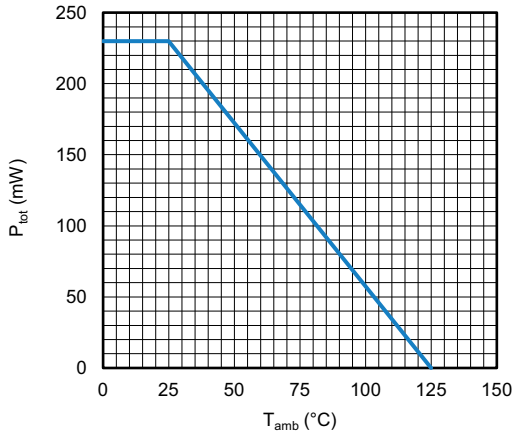


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

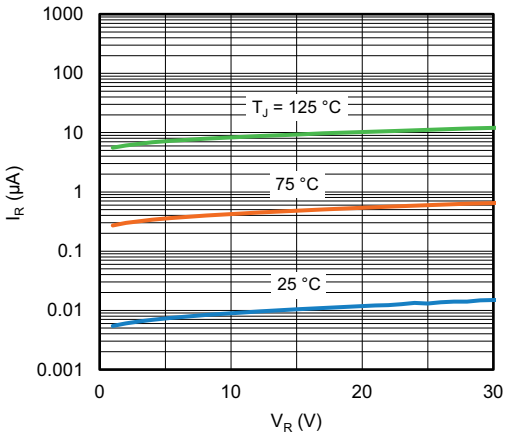
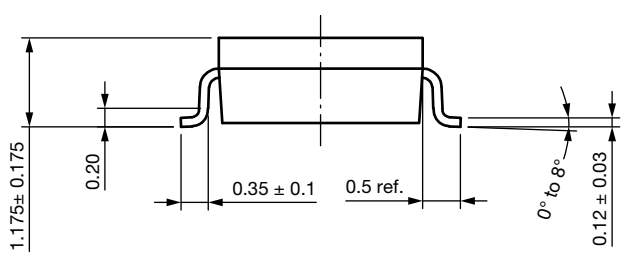
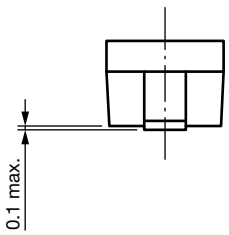
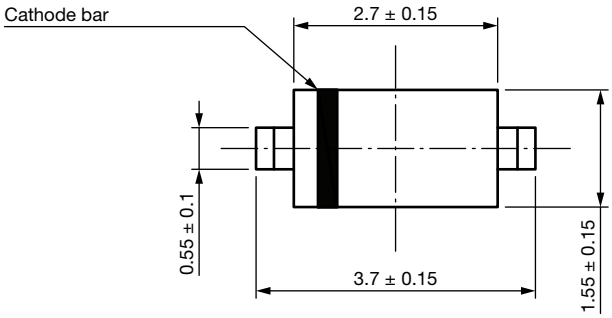


Fig. 4 - Typical Reverse Leakage vs. Reverse Voltage

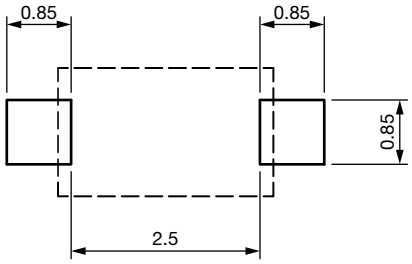
PACKAGE DIMENSIONS in millimeters (inches): **SOD-123**







Foot print recommendation



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Document no.: S8-V-3910.01-003 (4)

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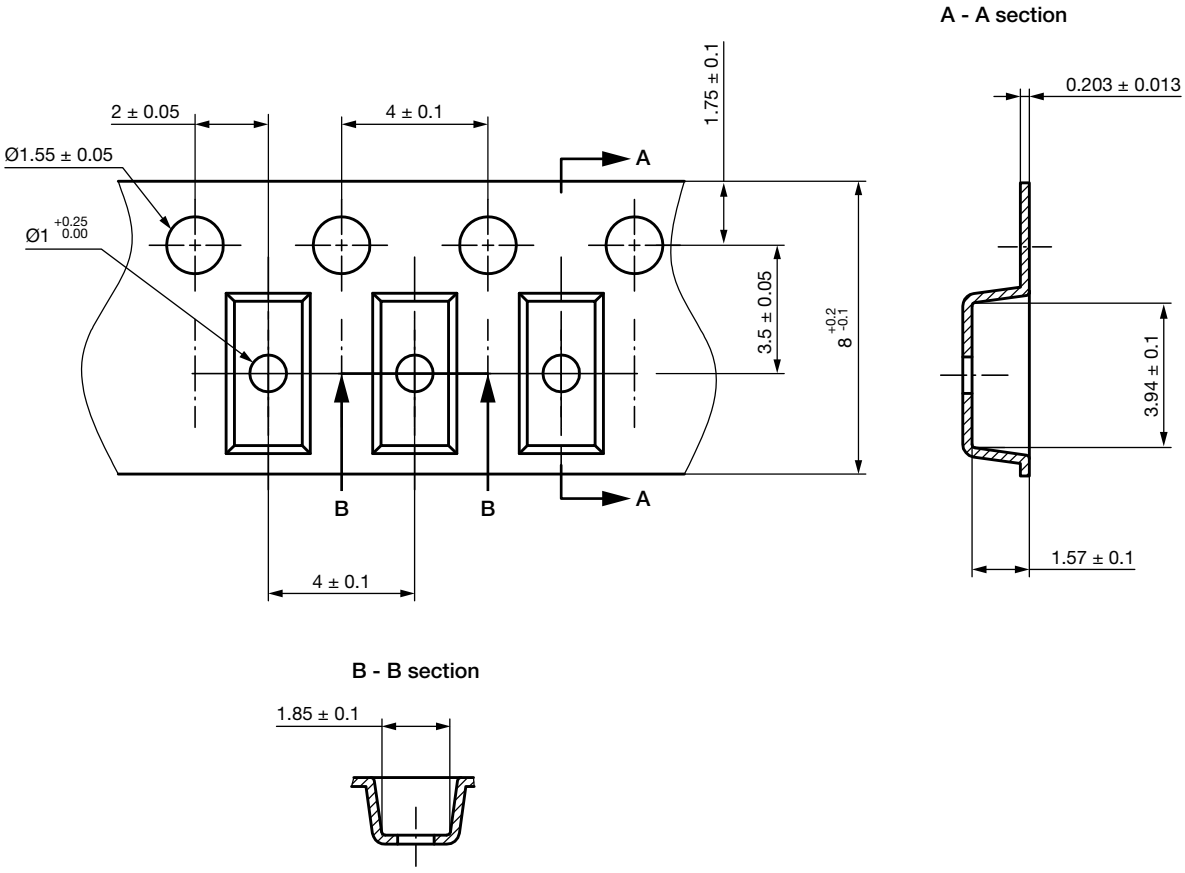
CARRIER TAPE SOD-123



Rev. 02 - Date: 21. Jan. 2014
Document no.: S8-V-3717.10-002 (4)

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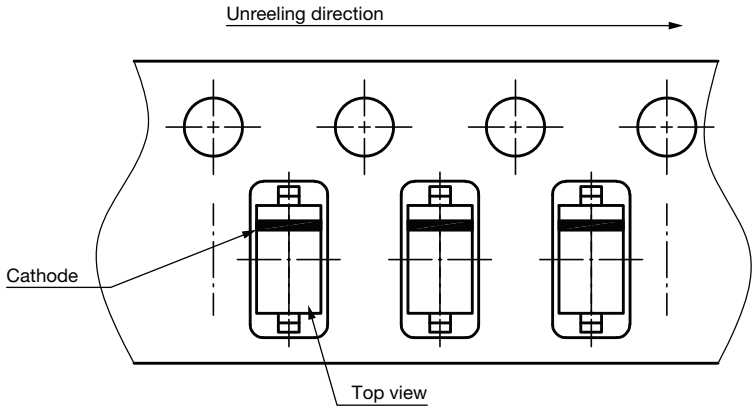
ORIENTATION IN CARRIER TAPE SOD-123



Rev. 02 - Date: 07. Nov. 2022
Document no.: S8-V-3717.10-003 (4)

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