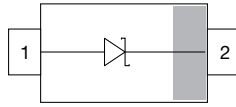


## Small Signal Schottky Diode



### FEATURES

- These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- For general purpose applications
- AEC-Q101 qualified available (part number on request)
- Molding compound meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level (MSL) 1
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### LINKS TO ADDITIONAL RESOURCES



### 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

PARTS TABLE						
PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
BAT54W-G	BAT54W-G3-08	no	L8	Single	3 000 (8 mm tape on 7" reel)	15 000
	BAT54W-G3-18	no			10 000 (8 mm tape on 13" reel)	10 000

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOD-123	10.6 mg	UL 94 V-0	MSL 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V <sub>RRM</sub>	30	V
Forward continuous current <sup>(1)</sup>		I <sub>F</sub>	200	mA
Repetitive peak forward current <sup>(1)</sup>	duty cycle t <sub>p</sub> / T < 0.5	I <sub>FRM</sub>	300	mA
Surge forward current <sup>(1)</sup>	t <sub>p</sub> = 10 ms	I <sub>FSM</sub>	600	mA
Power dissipation	on FR-4 board with recommended soldering footprint	P <sub>tot</sub>	230	mW
	Infinite heatsink		350	mW

**Note**

<sup>(1)</sup> Infinite heatsink



THERMAL CHARACTERISTICS (T <sub>amb</sub> = 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 <sub>thJA</sub>	420	K/W
Thermal resistance junction lead	Infinite heatsink	R <sub>thJL</sub>	280	K/W
Junction temperature		T <sub>j</sub>	125	°C
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C
Operating temperature range		T <sub>op</sub>	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	Tested with 100 µA pulses	V <sub>(BR)</sub>	30			V
Leakage current <sup>(1)</sup>	V <sub>R</sub> = 25 V	I <sub>R</sub>			2	µA
Forward voltage <sup>(1)</sup>	I <sub>F</sub> = 0.1 mA	V <sub>F</sub>			240	mV
	I <sub>F</sub> = 1 mA	V <sub>F</sub>			320	mV
	I <sub>F</sub> = 10 mA	V <sub>F</sub>			400	mV
	I <sub>F</sub> = 30 mA	V <sub>F</sub>			500	mV
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			800	mV
Diode capacitance	V <sub>R</sub> = 1 V, f = 1 MHz	C <sub>D</sub>			10	pF
Reverse recovery time	I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10 mA, i <sub>R</sub> = 1 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			5	ns

Note

<sup>(1)</sup> Pulse test: t<sub>p</sub> < 300 µs, duty cycle t<sub>p</sub> / T < 0.02



TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

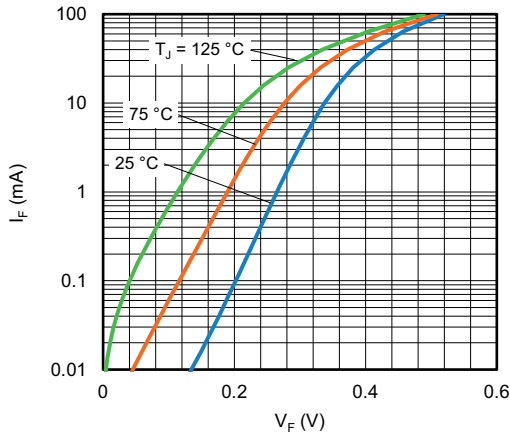


Fig. 1 - Typical Forward Current vs. Forward Voltage

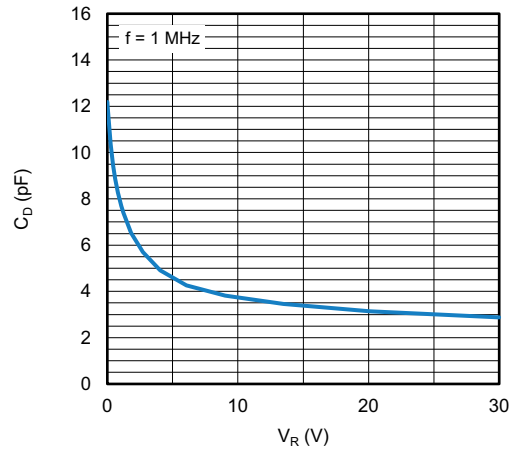


Fig. 3 - Typical Reverse Characteristics

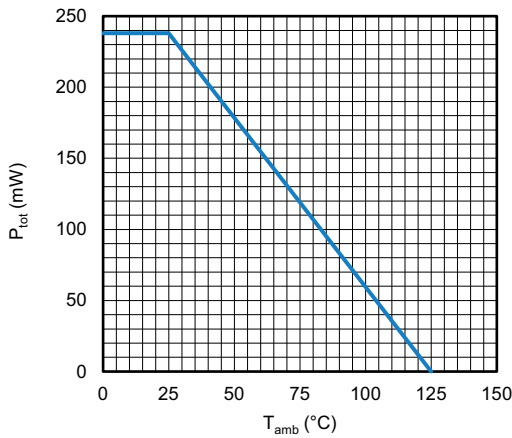


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

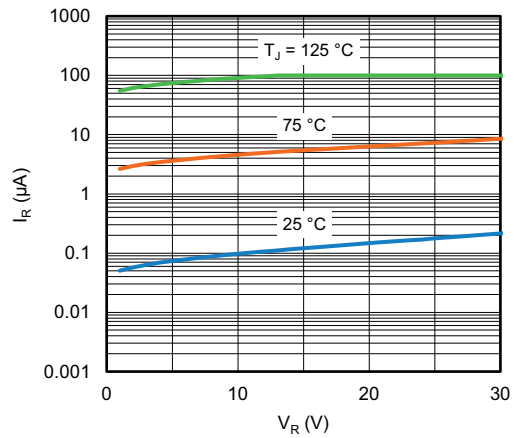
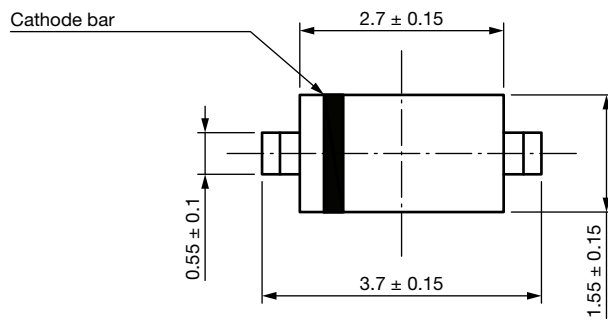
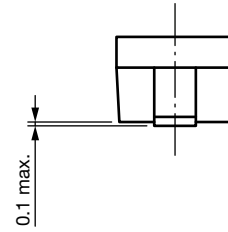
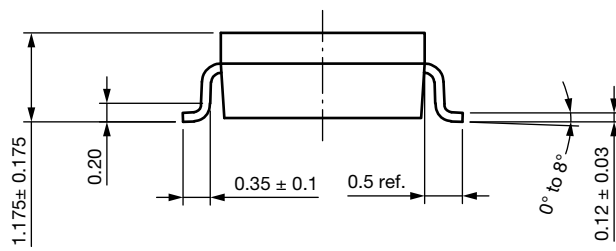


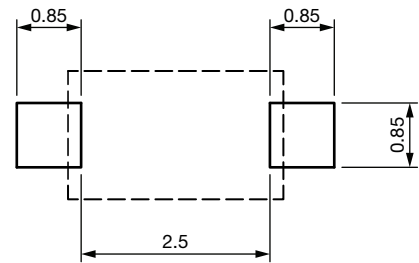
Fig. 4 - Typical Capacitance vs. Reverse Voltage



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



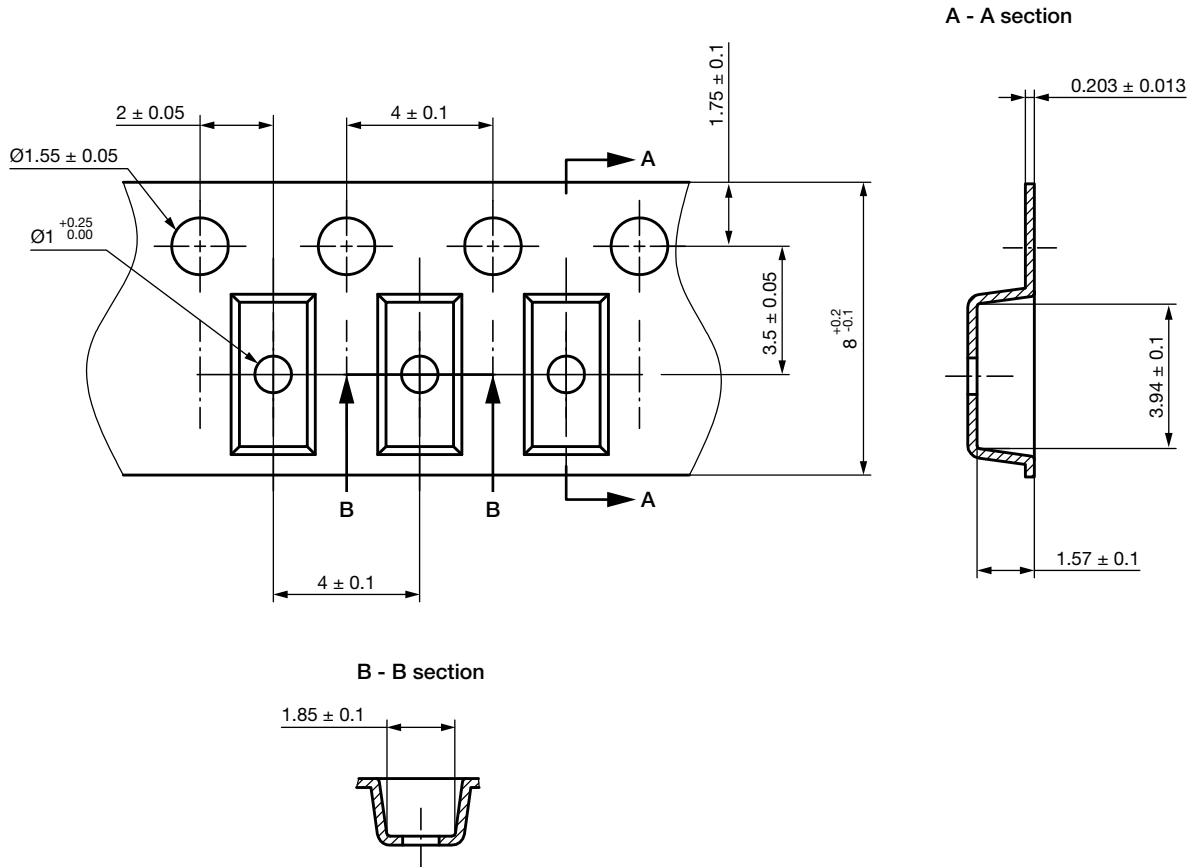
Foot print recommendation



Rev. 01 - Date: 18. Jan. 2022  
Document no.: S8-V-3910.01-003 (4)

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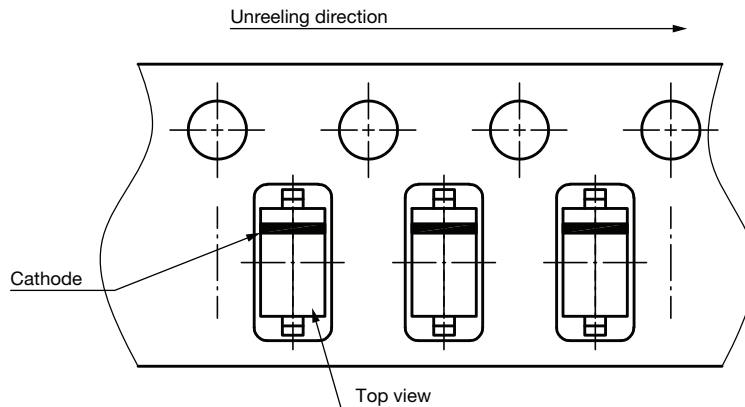
**CARRIER TAPE SOD-123**



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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