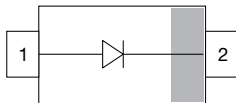


## Small Signal Switching Diode, High Voltage



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode, especially suited for applications requiring high voltage capability
- 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)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### 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
GSD2004W-G	GSD2004W-G3-08	no	B7	Single	3 000 (8 mm tape on 7" reel)	15 000
	GSD2004W-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
Continuous reverse voltage		V <sub>R</sub>	240	V
Repetitive peak reverse voltage		V <sub>RRM</sub>	300	V
Forward current (continuous) <sup>(1)</sup>		I <sub>F</sub>	300	mA
Repetitive peak forward current <sup>(1)</sup>		I <sub>FRM</sub>	625	mA
Non-repetitive peak forward current <sup>(1)</sup>	t <sub>p</sub> = 1 μs	I <sub>FSM</sub>	4	A
	t <sub>p</sub> = 1 s	I <sub>FSM</sub>	1	A
Power dissipation	on FR-4 board with recommended soldering footprint	P <sub>tot</sub>	300	mW
	Infinite heatsink		410	

#### Note

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

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Typical 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 to lead	Infinite heatsink	$R_{thJL}$	300	
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
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	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$	$V_{(BR)}$	300			V
Leakage current	$V_R = 240\text{ V}$	$I_R$			100	nA
	$V_R = 240\text{ V}$ , $T_j = 150\text{ }^{\circ}\text{C}$	$I_R$			100	$\mu\text{A}$
Forward voltage	$I_F = 100\text{ mA}$	$V_F$			1	V
	$I_F = 20\text{ mA}$	$V_F$		0.83	0.87	V
Diode capacitance	$V_F = V_R = 0$ , $f = 1\text{ MHz}$	$C_D$			2	pF
Reverse recovery time	$I_F = I_R = 30\text{ mA}$ , $i_R = 3\text{ mA}$ , $R_L = 100\text{ }\Omega$	$t_{rr}$			50	ns



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

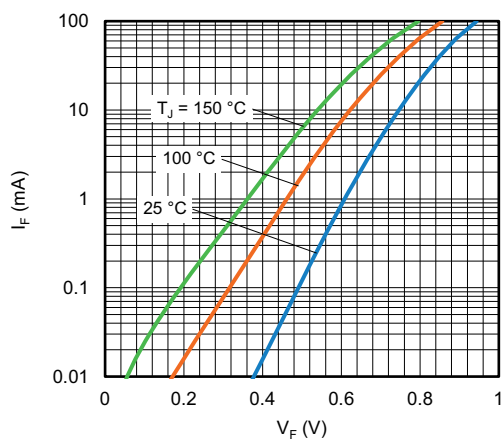


Fig. 1 - Forward Current vs. Forward Voltage

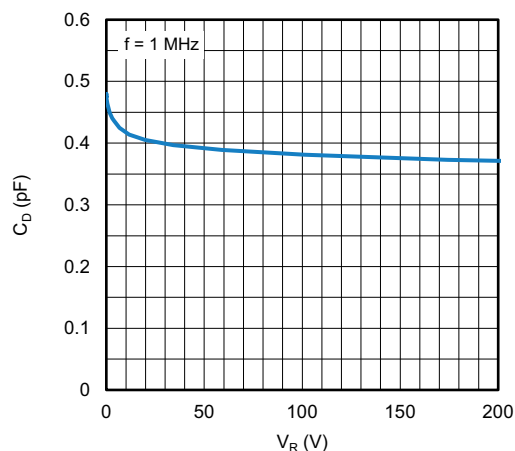


Fig. 3 - Typical Capacitance vs. Reverse Voltage

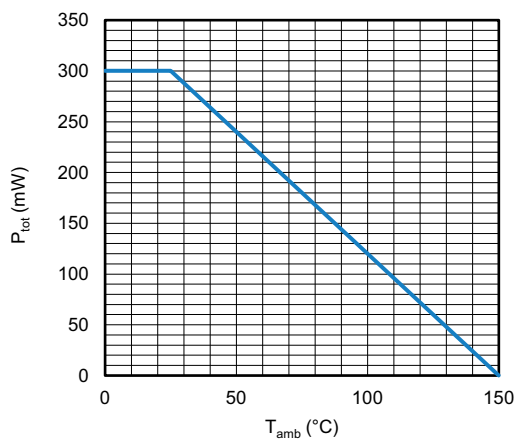


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

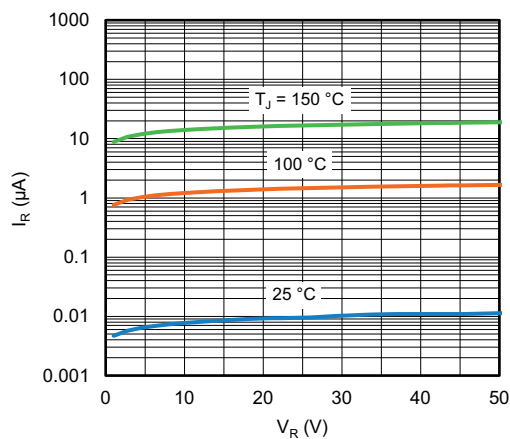
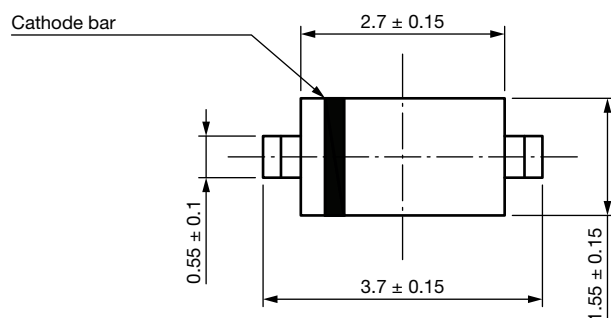
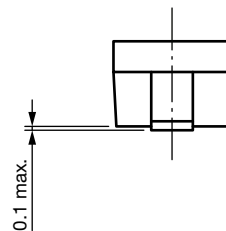
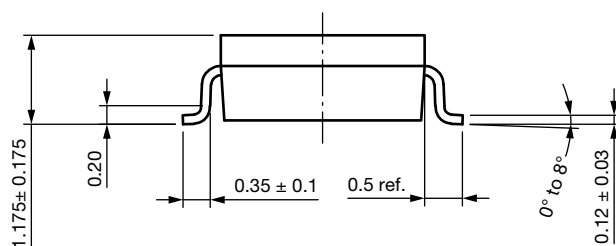
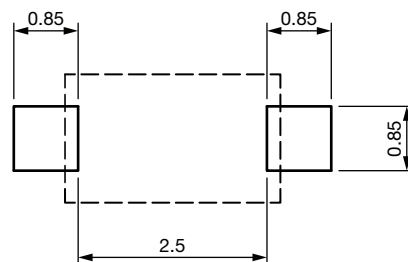


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

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

**Foot print recommendation**


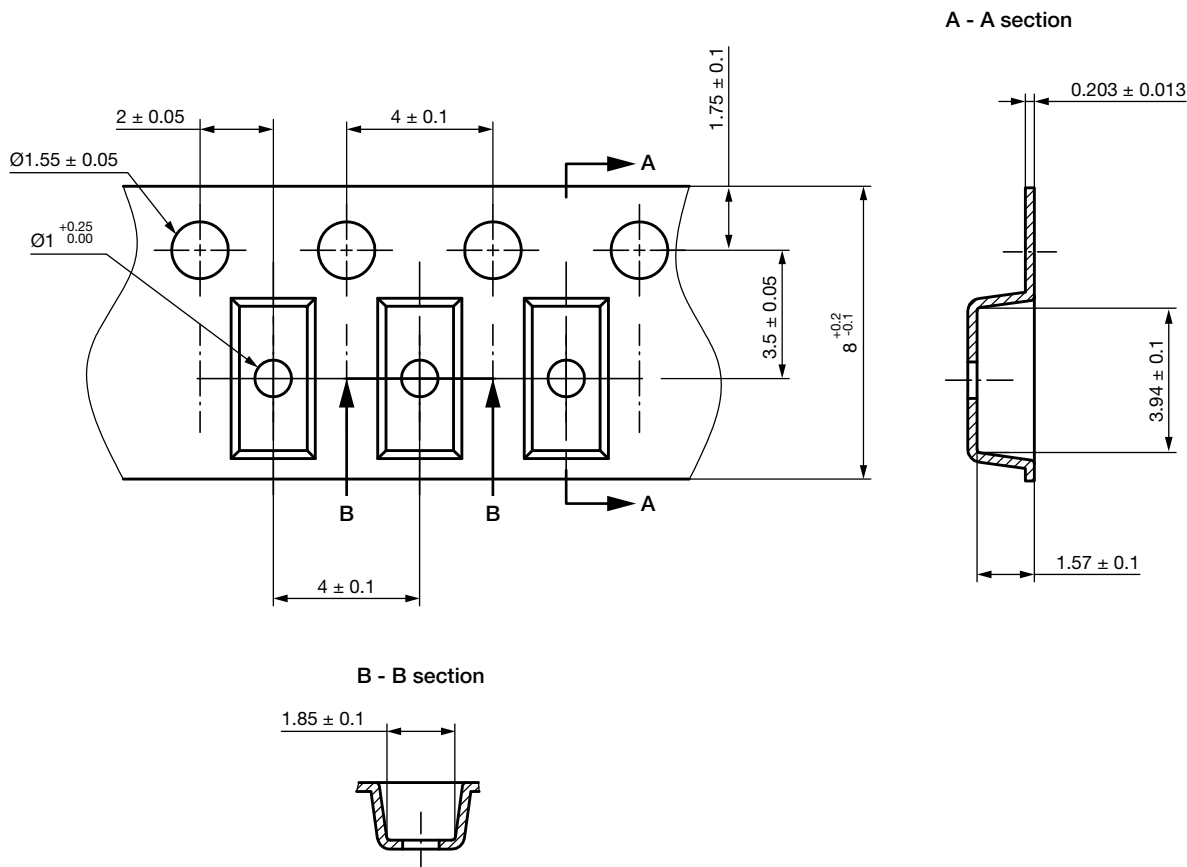
Rev. 01 - Date: 18. Jan. 2022

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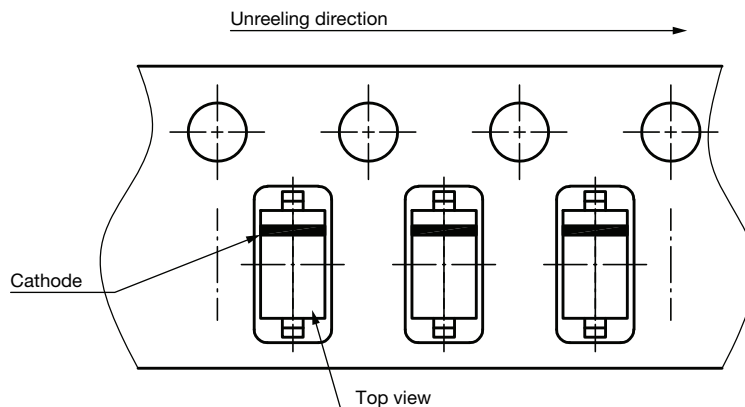
CARRIER TAPE SOD-123



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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