

## 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
- 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 10.3 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	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
GSD2004W	GSD2004W-E3-08 or GSD2004W-E3-18	Single diode	B6	Tape and reel
	GSD2004W-HE3-08 or GSD2004W-HE3-18			

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reverse voltage		$V_R$	240	V
Repetitive peak reverse voltage		$V_{RRM}$	300	V
Forward current (continuous)		$I_F$	225	mA
Repetitive peak forward current		$I_{FRM}$	625	mA
Non-repetitive peak forward current	$t_p = 1\text{ }\mu\text{s}$	$I_{FSM}$	4	A
	$t_p = 1\text{ s}$	$I_{FSM}$	1	A
Power dissipation <sup>(1)</sup>		$P_{tot}$	350	mW

### 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 <sup>(1)</sup>		$R_{thJA}$	357	K/W
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	$^{\circ}\text{C}$

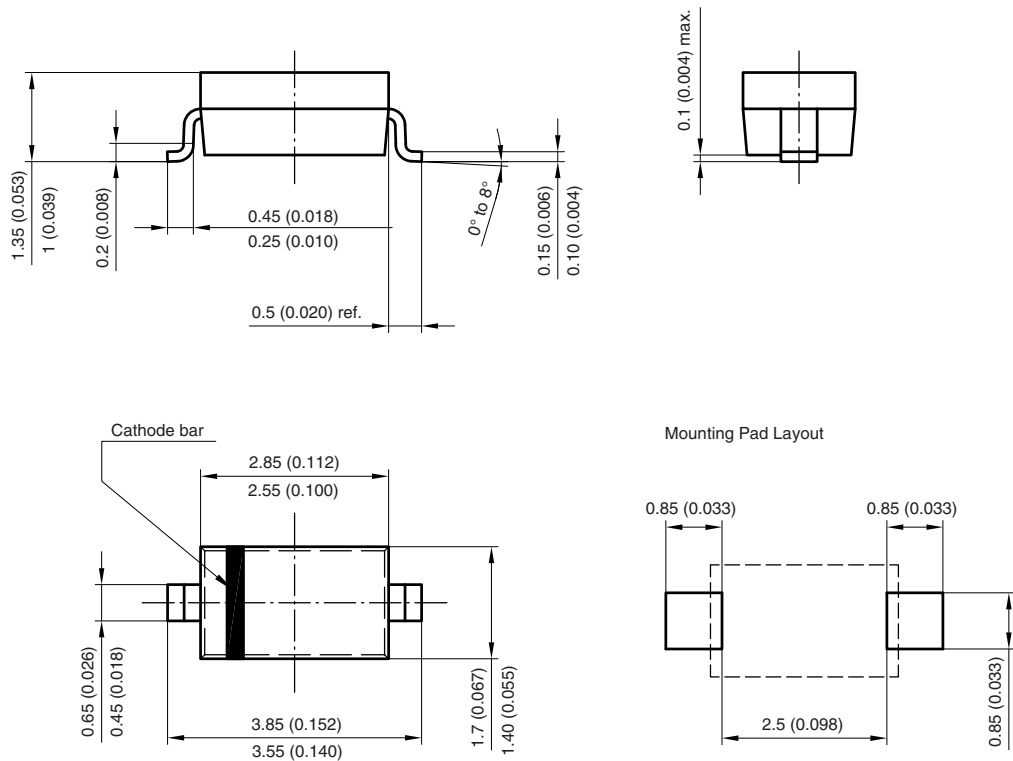
#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.



ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>(BR)</sub>	300			V
Leakage current	V <sub>R</sub> = 240 V	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 240 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			100	μA
Forward voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>		0.83	0.87	V
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			1	V
Diode capacitance	V <sub>F</sub> = V <sub>R</sub> = 0, f = 1 MHz	C <sub>D</sub>			5	pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 30 mA, I <sub>R</sub> = 3 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			50	ns

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



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