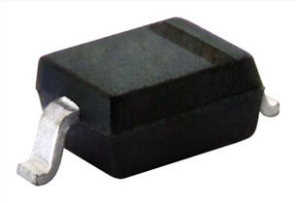
Small Signal Switching Diode, High Voltage



FEATURES

- Silicon epitaxial planar diode
- Fast switching diode, especially suited for applications requiring high voltage capability
- AEC-Q101 qualified available
- 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

Pb-free
e3
RoHS COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

MECHANICAL DATA

Case: SOD-323
Weight: approx. 4.3 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	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
GSD2004WS	GSD2004WS-E3-08 or GSD2004WS-E3-18	Single	B6	Tape and reel
	GSD2004WS-HE3-08 or GSD2004WS-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °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
Peak repetitive forward current		I_{FRM}	625	mA
Non-repetitive peak forward current	t_p = 1 µs	I_{FSM}	4	A
	t_p = 1 s	I_{FSM}	1	A
Power dissipation [1]		P_{tot}	200	mW

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Typical thermal resistance junction to ambient air [1]		R_{thJA}	650	K/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

Note
[1] Valid provided that electrodes are kept at ambient temperature

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ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Reverse breakdown voltage	I_R = 100 µA	V_{BR}	300			V
Leakage current	V_R = 240 V	I_R			100	nA
	V_R = 240 V, T_j = 150 °C	I_R			100	µA
Forward voltage	I_F = 20 mA	V_F		0.83	0.87	V
	I_F = 100 mA	V_F			1	V
Diode capacitance	$V_F = V_R$ = 0, f = 1 MHz	C_D			5	pF
Reverse recovery time	$I_F = I_R$ = 30 mA, i_R = 3 mA, R_L = 100 Ω	t_{rr}			50	ns

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

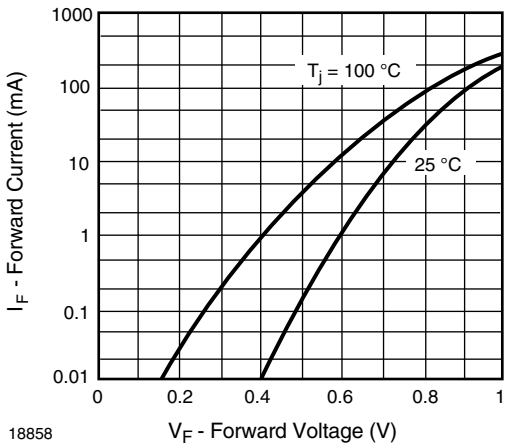

Fig. 1 - Forward Current vs. Forward Voltage

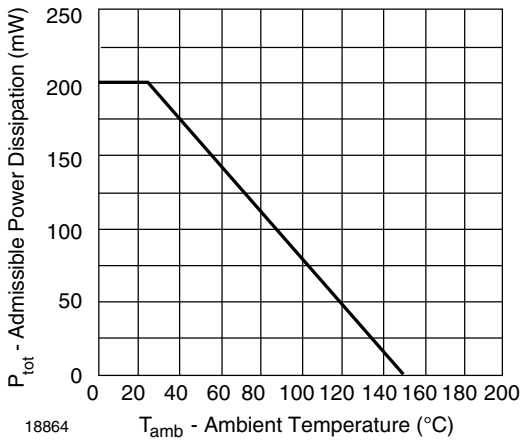

Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

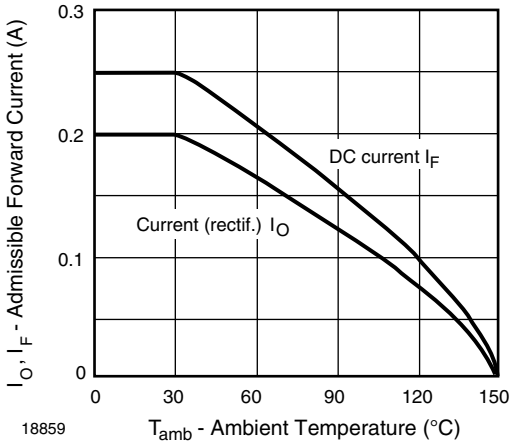

Fig. 2 - Admissible Forward Current vs. Ambient Temperature

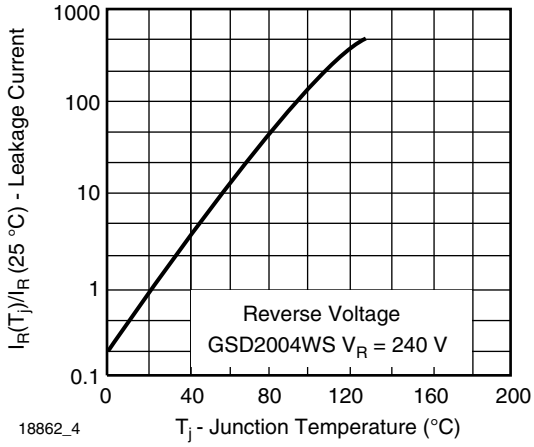

Fig. 4 - Leakage Current vs. Junction Temperature

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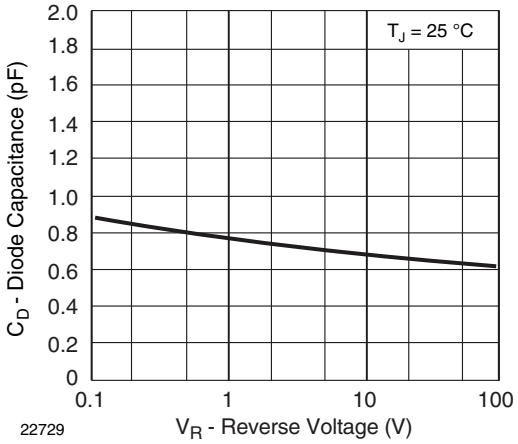
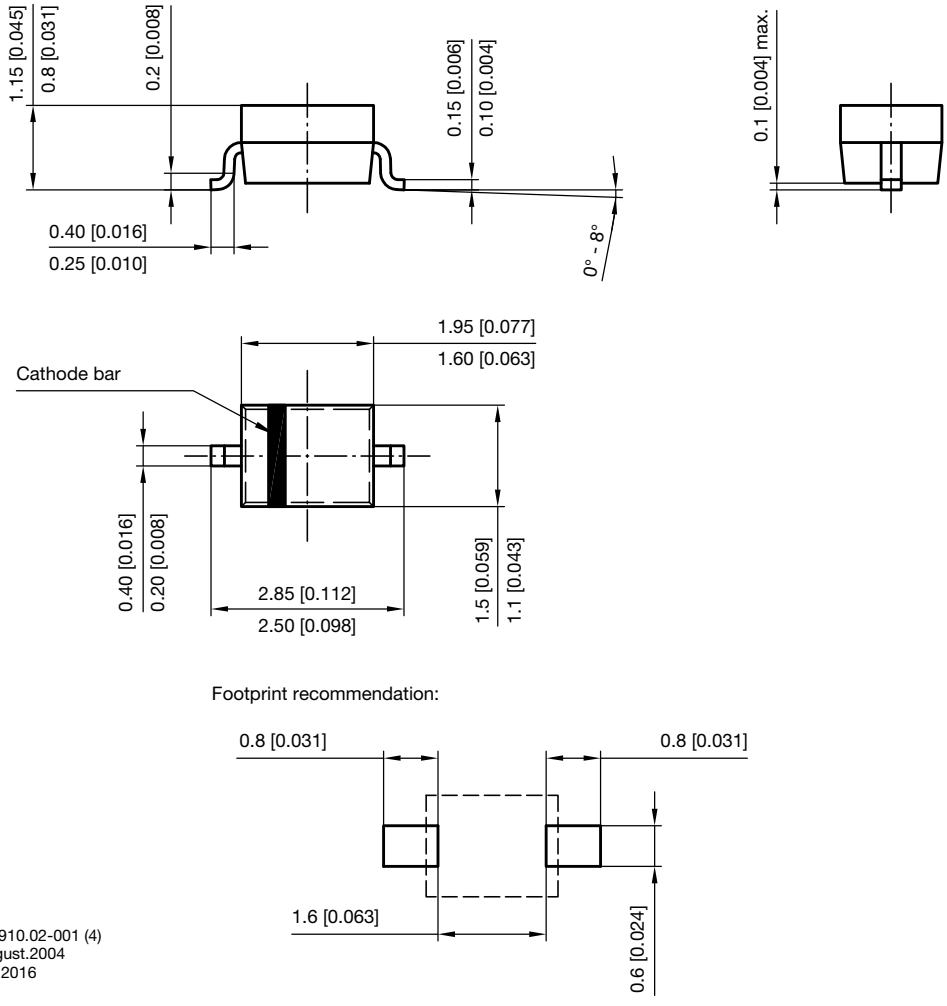


Fig. 5 - Capacitance vs. Reverse Voltage

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



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