

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


RoHS
COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started


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 ($T_{amb} = 25^{\circ}\text{C}$, 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
Peak repetitive forward current		I_{FRM}	625	mA
Non-repetitive peak forward current	$t_p = 1 \mu\text{s}$	I_{FSM}	4	A
	$t_p = 1 \text{ s}$	I_{FSM}	1	A
Power dissipation ⁽¹⁾		P_{tot}	200	mW

THERMAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$, 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	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +150	$^{\circ}\text{C}$

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature



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	μA
Forward voltage	$I_F = 20\text{ mA}$	V_F		0.83	0.87	V
	$I_F = 100\text{ mA}$	V_F			1	V
Diode capacitance	$V_F = V_R = 0, f = 1\text{ MHz}$	C_D			5	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)

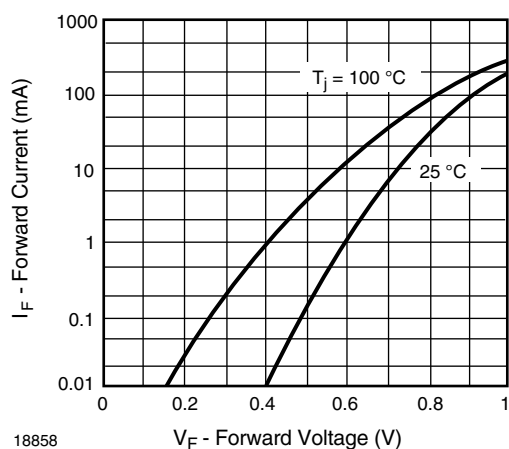


Fig. 1 - Forward Current vs. Forward Voltage

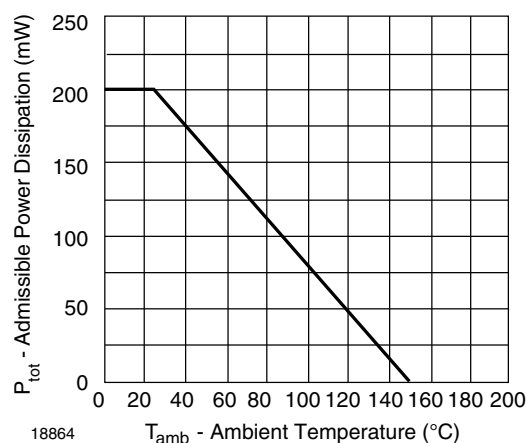


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

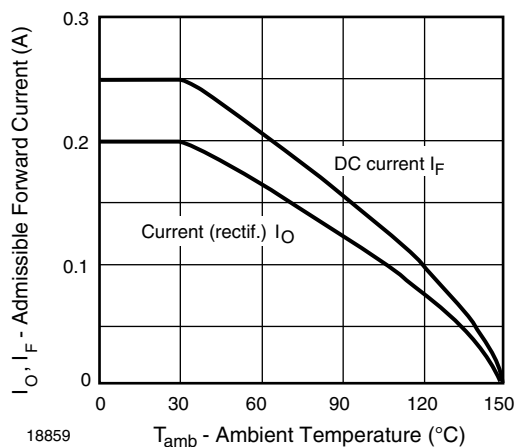


Fig. 2 - Admissible Forward Current vs. Ambient Temperature

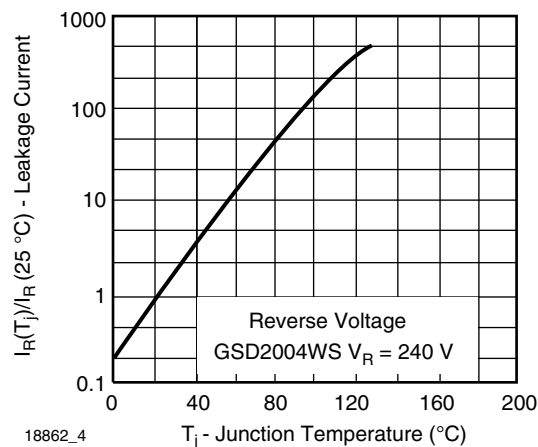


Fig. 4 - Leakage Current vs. Junction Temperature

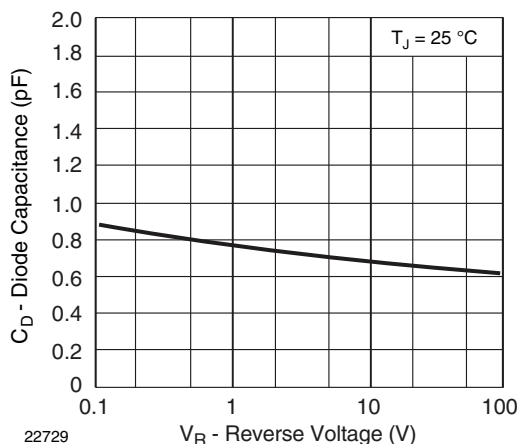
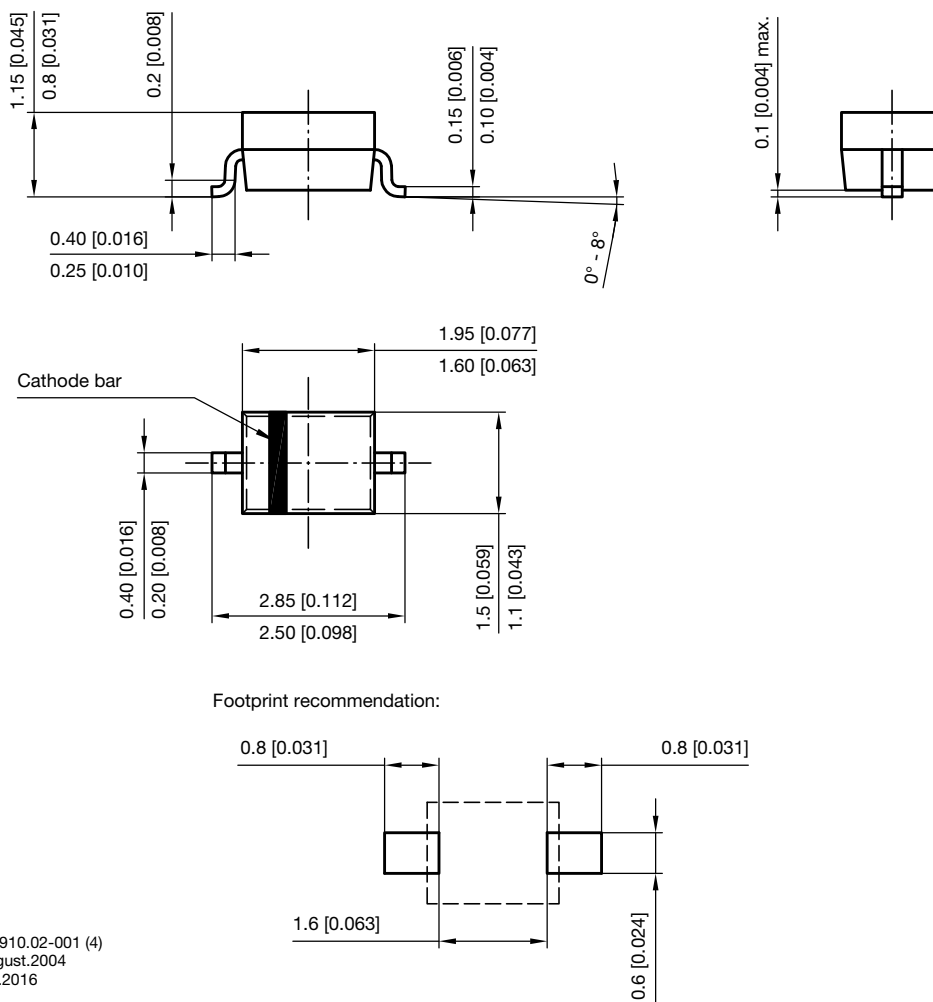


Fig. 5 - Capacitance vs. Reverse Voltage

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


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