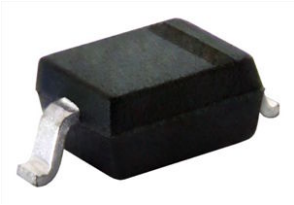
Small Signal Switching Diodes, High Voltage



FEATURES

- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified
- Base P/N-G3 - green, commercial grade
- Base P/N-HG3 - green, AEC-Q101 qualified (part number available on request)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

MECHANICAL DATA

Case: SOD-323

Weight: approx. 4 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	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
BAV19WS-G	V_R = 100 V	BAV19WS-G3-08 or BAV19WS-G3-18	AS	Single	Tape and reel
BAV20WS-G	V_R = 150 V	BAV20WS-G3-08 or BAV20WS-G3-18	AT	Single	Tape and reel
BAV21WS-G	V_R = 200 V	BAV21WS-G3-08 or BAV21WS-G3-18	AU	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	SYMBOL	VALUE	UNIT
Continuous reverse voltage		BAV19WS-G	V_R	100	V
		BAV20WS-G	V_R	150	V
		BAV21WS-G	V_R	200	V
Repetitive peak reverse voltage		BAV19WS-G	V_{RRM}	120	V
		BAV20WS-G	V_{RRM}	200	V
		BAV21WS-G	V_{RRM}	250	V
Forward continuous current (1)			I_F	250	mA
Rectified current (average) half wave rectification with resistive load (1)			$I_{F(AV)}$	200	mA
Repetitive peak forward current (1)	f ≥ 50 Hz, θ = 180°		I_{FRM}	625	mA
Surge forward current	t < 1 s, T_J = 25 °C		I_{FSM}	1	A
Power dissipation			P_{tot}	200	mW

Note

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

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air		R_{thJA}	625	K/W
Thermal resistance junction to lead		R_{thJL}	450	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

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)							
PARAMETER	**TEST CONDITION**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 100 mA		V_F			1	V
	I_F = 200 mA		V_F			1.25	V
Reverse leakage current	V_R = 100 V	BAV19WS-G	I_R			100	nA
	V_R = 100 V, T_j = 100 °C	BAV19WS-G	I_R			15	µA
	V_R = 150 V	BAV20WS-G	I_R			100	nA
	V_R = 150 V, T_j = 100 °C	BAV20WS-G	I_R			15	µA
	V_R = 200 V	BAV21WS-G	I_R			100	nA
	V_R = 200 V, T_j = 100 °C	BAV21WS-G	I_R			15	µA
Dynamic Forward resistance	I_F = 10 mA		r_f		5		Ω
Diode capacitance	V_R = 0 V, f = 1 MHz		C_D			1.5	pF
Reverse recovery time	I_F = 30 mA, 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)

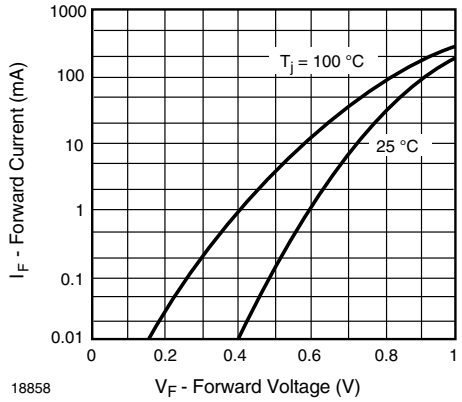


Fig. 1 - Forward Current vs. Forward Voltage

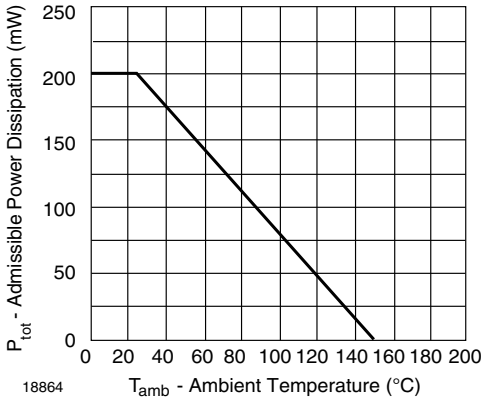


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

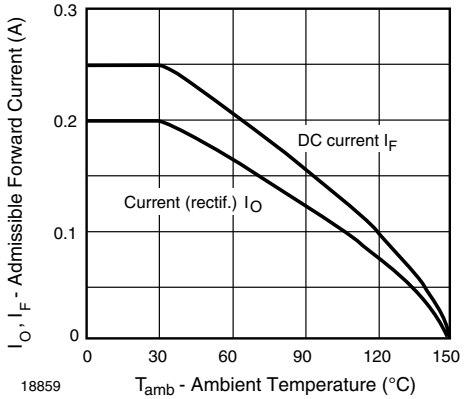


Fig. 2 - Admissible Forward Current vs. Ambient Temperature

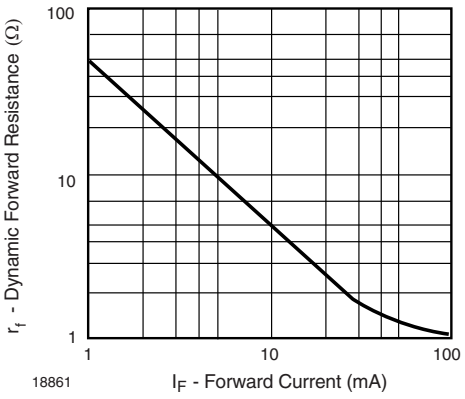


Fig. 4 - Dynamic Forward Resistance vs. Forward Current

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

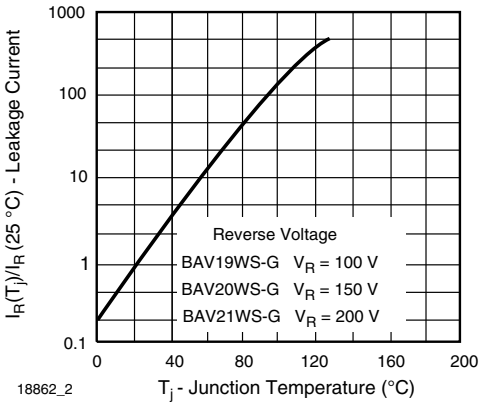


Fig. 5 - Leakage Current vs. Junction Temperature

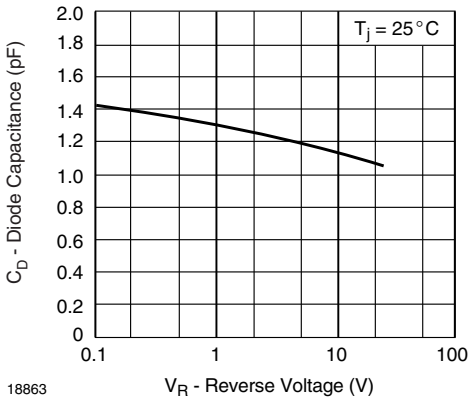
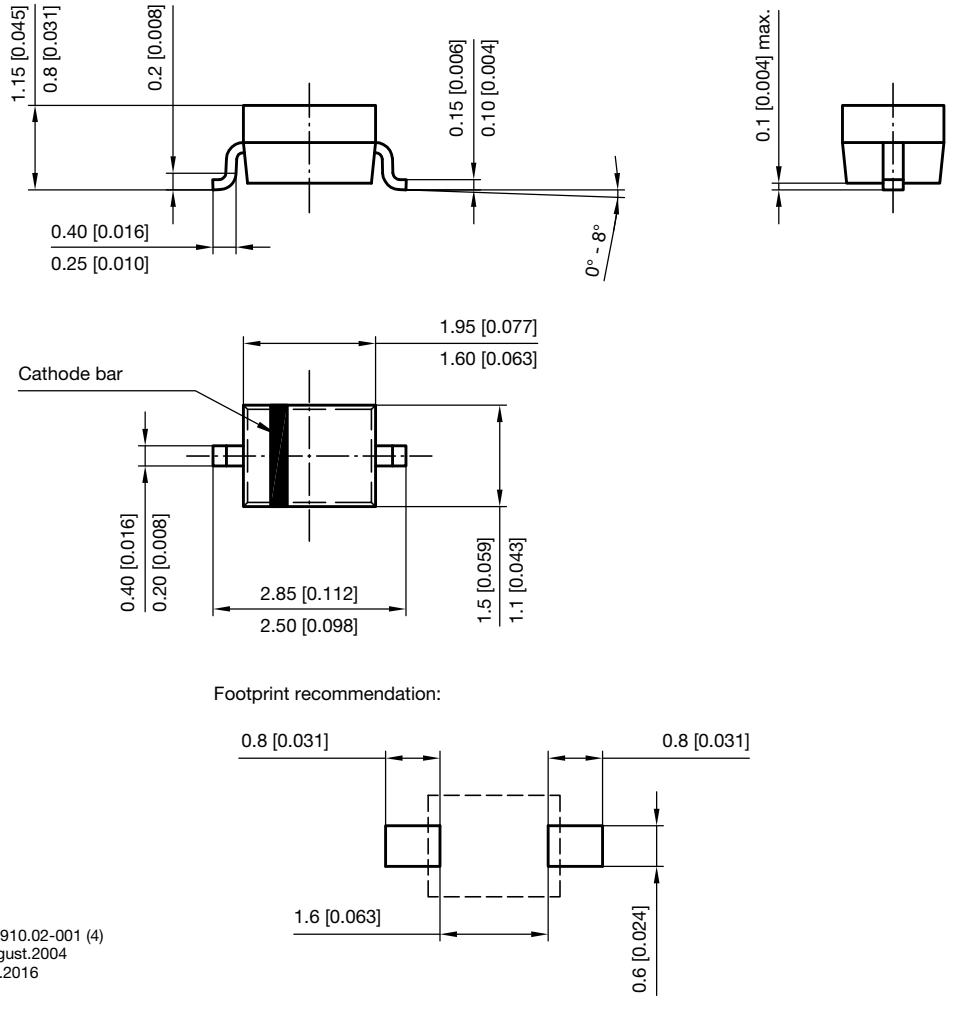


Fig. 6 - Capacitance vs. Reverse Voltage

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



Document no.: S8-V-3910.02-001 (4)
Created - Date: 24.August.2004
Rev. 6 - Date: 23.Sept.2016
17443

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

© 2024 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED