BAV19WS-V-G, BAV20WS-V-G, BAV21WS-V-G

Vishay Semiconductors

Small Signal Switching Diodes, High Voltage

Features

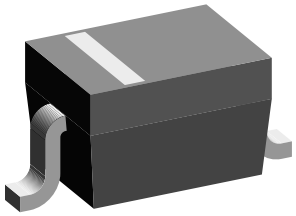
- Silicon epitaxial planar diodes
- For general purpose
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb-free

e3

RoHS COMPLIANT

GREEN (5-2008)**



20145

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	Remarks
BAV19WS-V-G	V_R = 100 V	BAV19WS-V-G-18 or BAV19WS-V-G-08	AS	Tape and reel
BAV20WS-V-G	V_R = 150 V	BAV20WS-V-G-18 or BAV20WS-V-G-08	AT	Tape and reel
BAV21WS-V-G	V_R = 200 V	BAV21WS-V-G-18 or BAV21WS-V-G-08	AU	Tape and reel

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Continuous reverse voltage		BAV19WS-V-G	V_R	100	V
		BAV20WS-V-G	V_R	150	V
		BAV21WS-V-G	V_R	200	V
Repetitive peak reverse voltage		BAV19WS-V-G	V_{RRM}	120	V
		BAV20WS-V-G	V_{RRM}	200	V
		BAV21WS-V-G	V_{RRM}	250	V
Forward continuous current			I_F	250 [1]	mA
Rectified current (average) half wave rectification with resist. load			$I_{F(AV)}$	200 [1]	mA
Repetitive peak forward current	f ≥ 50 Hz, θ = 180°		I_{FRM}	625 [1]	mA
Surge forward current	t < 1 s, T_j = 25 °C		I_{FSM}	1	A
Power dissipation			P_{tot}	200 [1]	mW

Note

[1] Valid provided that leads are kept at ambient temperature

** Please see document “Vishay Material Category Policy”: www.vishay.com/doc?99902

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	650 [1]	K/W
Junction temperature		T_j	150 [1]	°C
Storage temperature range		T_{stg}	- 65 to + 150 [1]	°C

Note

[1] Valid provided that leads are kept at ambient temperature

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
Leakage current	V_R = 100 V	BAV19WS-V-G	I_R			100	nA
	V_R = 100 V, T_j = 100 °C	BAV19WS-V-G	I_R			15	µA
	V_R = 150 V	BAV20WS-V-G	I_R			100	nA
	V_R = 150 V, T_j = 100 °C	BAV20WS-V-G	I_R			15	µA
	V_R = 200 V	BAV21WS-V-G	I_R			100	nA
	V_R = 200 V, T_j = 100 °C	BAV21WS-V-G	I_R			15	µA
Dynamic forward resistance	I_F = 10 mA		r_f		5		Ω
Diode capacitance	V_R = 0, 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

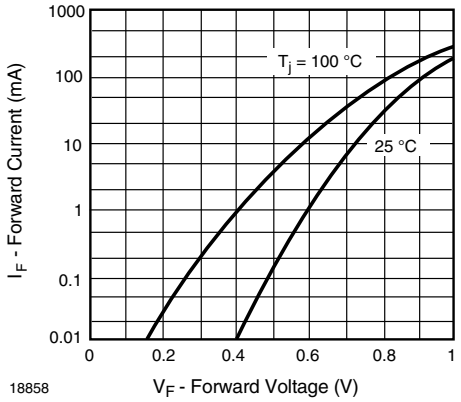


Figure 1. Forward Current vs. Forward Voltage

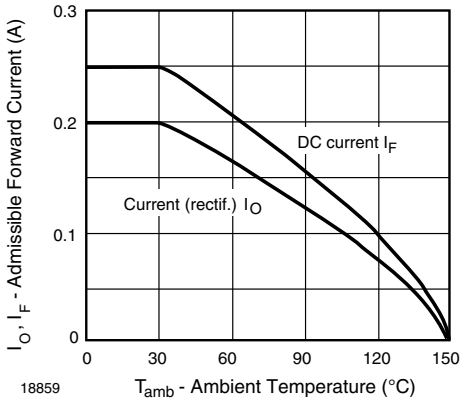


Figure 2. Admissible Forward Current vs. Ambient Temperature

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

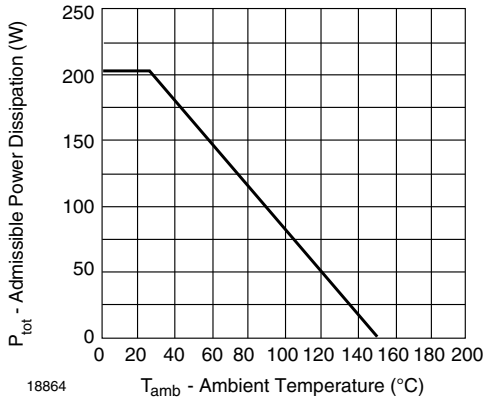


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

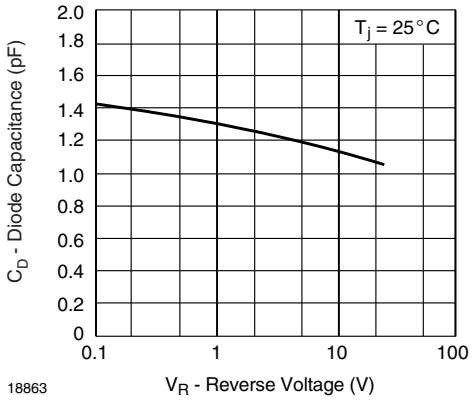


Figure 6. Capacitance vs. Reverse Voltage

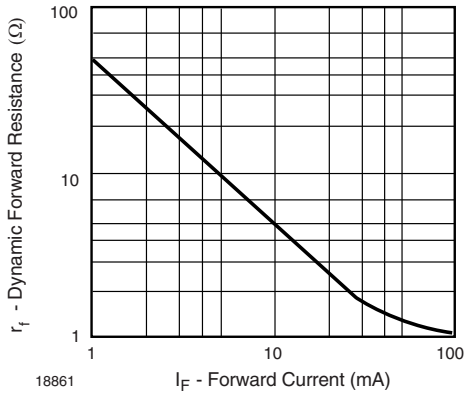


Figure 4. Dynamic Forward Resistance vs. Forward Current

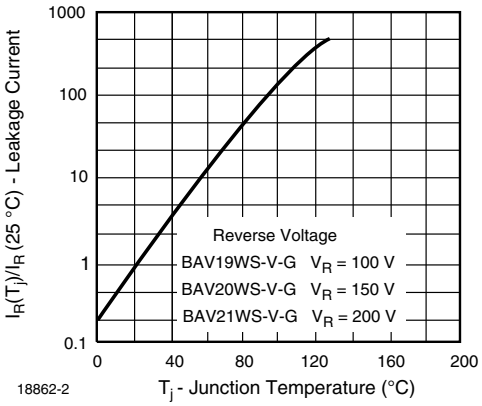
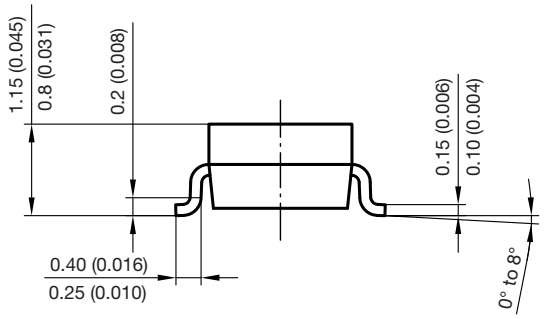
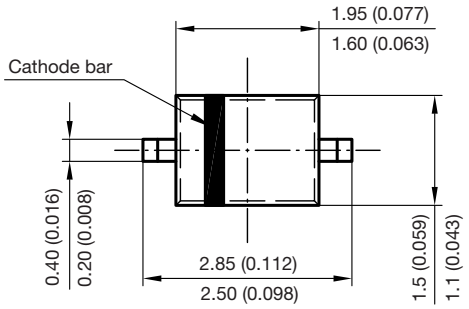


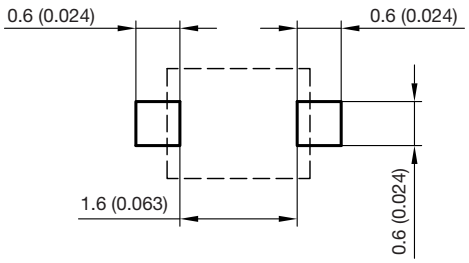
Figure 5. Leakage Current vs. Junction Temperature

Package Dimensions in millimeters (inches): SOD-323





Foot print recommendation:



Document no.:S8-V-3910.02-001 (4)
Created - Date: 24.August.2004
Rev. 5 - Date: 23.Sept.2009
17443

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

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.

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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.