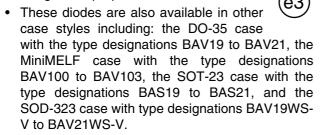


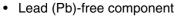
Vishay Semiconductors

Small Signal Switching Diodes, High Voltage

Features

- Silicon Epitaxial Planar Diodes
- · For general purpose





 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Case: SOD-123 Plastic case Weight: approx. 9.3 mg Packaging Codes/Options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box GS08 / 3 k per 7" reel (8 mm tape), 15 k/box



Part	Type differentiation	Ordering code	Marking	Remarks
BAV19W-V	V _R = 100 V	BAV19W-V-GS18 or BAV19W-V-GS08	A8	Tape and Reel
BAV20W-V	V _R = 150 V	BAV20W-V-GS18 or BAV20W-V-GS08	A9	Tape and Reel
BAV21W-V	V _R = 200 V	BAV21W-V-GS18 or BAV21W-V-GS08	AA	Tape and Reel



Document Number 85725 www.vishay.com

Rev. 1.2, 22-Jul-05

BAV19W-V / 20W-V / 21W-V

Vishay Semiconductors



Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Continuous reverse voltage		BAV19W-V	V _R	100	V
		BAV20W-V	V _R	150	V
		BAV21W-V	V _R	200	V
Repetitive peak voltage		BAV19W-V	V _{RRM}	120	V
		BAV20W-V	V _{RRM}	200	V
		BAV21W-V	V _{RRM}	250	V
DC Forward current	T _{amb} = 25 °C		I _F	250 ¹⁾	mA
Rectified current (average) half wave rectification with resist. load	T _{amb} = 25 °C		I _{F(AV)}	200 ¹⁾	mA
Repetitive peak forward current	$f \ge 50$ Hz, $\theta = 180$ °, $T_{amb} = 25$ °C		I _{FRM}	625 ¹⁾	mA
Surge forward current	t < 1 s, T _j = 25 °C		I _{FSM}	1	Α
Power dissipation	T _{amb} = 25 °C		P _{tot}	410 ¹⁾	mW

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}	375 ¹⁾	°C/W
Junction temperature		T _j	150 ¹⁾	°C
Storage temperature range		T _S	- 65 to + 150 ¹⁾	°C

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	Тур.	Max	Unit
Forward voltage	I _F = 100 mA		V_{F}			1.00	V
	I _F = 200 mA		V _F			1.25	V
Leakage current	V _R = 100 V	BAV19W-V	I _R			100	nA
	V _R = 100 V, T _j = 100 °C	BAV19W-V	I _R			15	μΑ
	V _R = 150 V	BAV20W-V	I _R			100	nA
	$V_R = 150 \text{ V}, T_j = 100 ^{\circ}\text{C}$	BAV20W-V	I _R			15	μΑ
	V _R = 200 V	BAV21W-V	I _R			100	nA
	$V_R = 200 \text{ V}, T_j = 100 ^{\circ}\text{C}$	BAV21W-V	I _R			15	μΑ
Dynamic forward resistance	I _F = 10 mA		r _f		5		Ω
Diode capacitance	V _R = 0, f = 1 MHz		C _{tot}		1.5		pF
Reverse recovery time	$I_F = 30 \text{ mA}, I_R = 30 \text{ mA},$ $I_{rr} = 3 \text{ mA}, R_L = 100 \Omega$		t _{rr}			50	ns



Vishay Semiconductors

Typical Characteristics (Tamb = 25 °C unless otherwise specified)

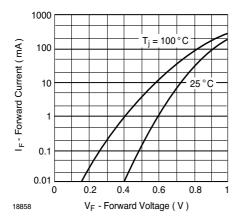


Figure 1. Forward Current vs. Forward Voltage

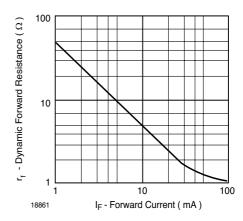


Figure 4. Dynamic Forward Resistance vs. Forward Current

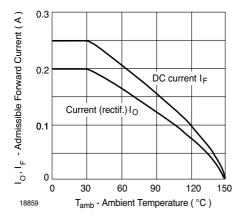


Figure 2. Admissible Forward Current vs. Ambient Temperature

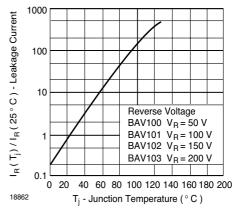


Figure 5. Leakage Current vs. Junction Temperature

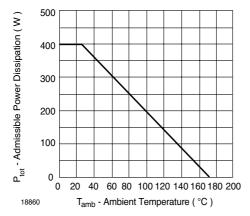


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

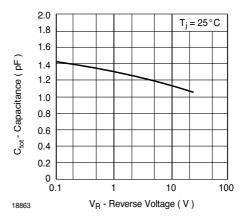


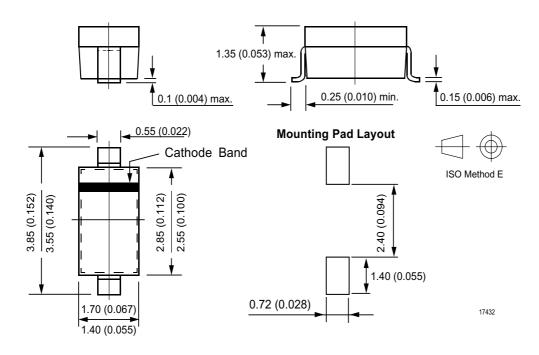
Figure 6. Capacitance vs. Reverse Voltage

BAV19W-V / 20W-V / 21W-V

Vishay Semiconductors



Package Dimensions in mm (Inches)



BAV19W-V / 20W-V / 21W-V



Vishay Semiconductors

Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

- 1. Meet all present and future national and international statutory requirements.
- 2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

- 1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
- 2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
- 3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

> We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany

Document Number 85725 www.vishay.com

Rev. 1.2, 22-Jul-05



Vishay

Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Revision: 18-Jul-08

Document Number: 91000 www.vishay.com