BAS16WS



Vishay Semiconductors

Small Signal Fast Switching Diode

FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- 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 <u>www.vishay.com/doc?99912</u>



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	
BAS16WS	BAS16WS-E3-08 or BAS16WS-E3-18 BAS16WS-HE3-08 or BAS16WS-HE3-18	Single	A6	Tape and reel	

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Reverse voltage		V _R	75	V	
Repetitive peak reverse voltage		V _{RRM}	100	V	
Forward current (continuous)		IF	250	mA	
	t = 1 µs	I _{FSM}	2	А	
Non-repetitive peak forward current	t = 1 ms	I _{FSM}	1	A	
	t = 1 s	I _{FSM}	0.5	А	
Power dissipation		P _{tot}	200	mW	

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION SYMBOL VALU		VALUE	UNIT	
Thermal resistance junction to ambient air		R _{thJA}	650	K/W	
Junction temperature		Tj	150	°C	
Storage temperature range		T _{stg}	-65 to +150	°C	
Operating temperature range		T _{op}	-55 to +150	°C	

Rev. 2.1, 12-Jul-17

Document Number: 85752

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

www.vishay.com

BAS16WS

Vishay Semiconductors

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I _F = 150 mA	V _F			1.250	V
Forward voltage	I _F = 1 mA	VF			0.715	V
Forward voltage	I _F = 10 mA	V _F			0.855	V
	l _F = 50 mA	V _F			1	V
	V _R = 75 V	I _R			1000	nA
Leakage current	V _R = 25 V, T _J = 150 °C	I _R			30	μA
	V _R = 75 V, T _J = 150 °C	I _R			50	μA
Diode capacitance	$V_{R} = 0$, f = 1 MHz	CD			2	pF
Reverse recovery time	I_F = 10 mA, I_R = 10 mA, i_R = 1 mA, R_L = 100 Ω	t _{rr}			6	ns

TYPICAL CHARACTERISTICS (Tamb = 25 °C, unless otherwise specified)

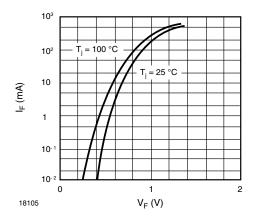


Fig. 1 - Forward Characteristics

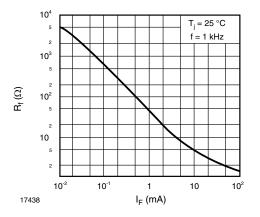


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

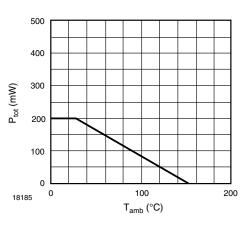


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

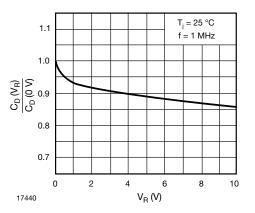


Fig. 4 - Relative Capacitance vs. Reverse Voltage

2

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



Vishay Semiconductors

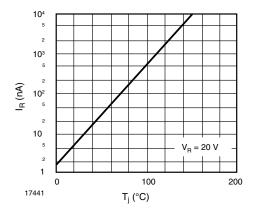
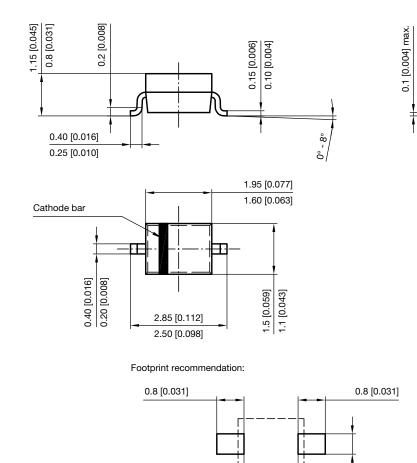


Fig. 5 - Leakage Current vs. Junction Temperature

PACKAGE DIMENSIONS in millimeters (inches): SOD-323



1.6 [0.063]

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

Rev. 2.1, 12-Jul-17

0.6 [0.024]

Document Number: 85752

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



Vishay

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

Revision: 01-Jan-2024