## **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	

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

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

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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I <sub>F</sub> = 150 mA	V <sub>F</sub>			1.250	V
Forward voltage	I <sub>F</sub> = 1 mA	VF			0.715	V
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>			0.855	V
	l <sub>F</sub> = 50 mA	V <sub>F</sub>			1	V
	V <sub>R</sub> = 75 V	I <sub>R</sub>			1000	nA
Leakage current	V <sub>R</sub> = 25 V, T <sub>J</sub> = 150 °C	I <sub>R</sub>			30	μA
	V <sub>R</sub> = 75 V, T <sub>J</sub> = 150 °C	I <sub>R</sub>			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 $\Omega$	t <sub>rr</sub>			6	ns

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

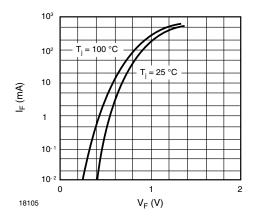


Fig. 1 - Forward Characteristics

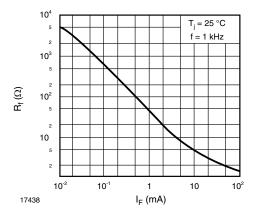


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

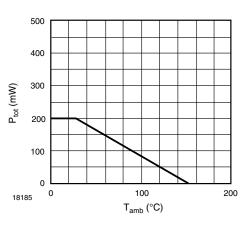


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

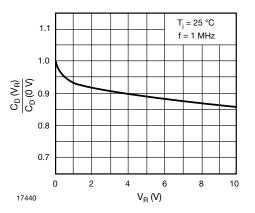


Fig. 4 - Relative Capacitance vs. Reverse Voltage

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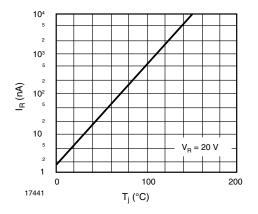
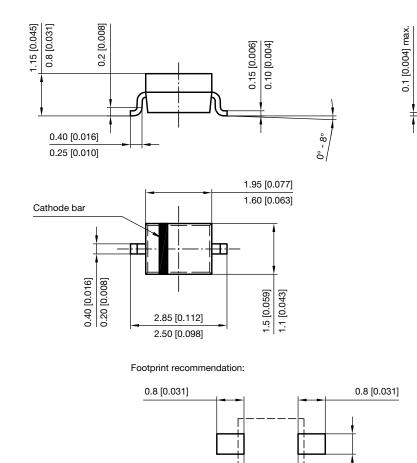


Fig. 5 - Leakage Current vs. Junction Temperature

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



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