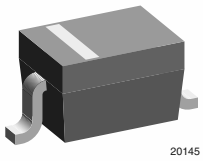
Small Signal Fast Switching Diode

Features

- Silicon epitaxial planar diode
- Fast switching diode
- Also available in case SOT23 with designation BAS16
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Mechanical Data

Case: SOD323 plastic case

Weight: approx. 4.3 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

Parts Table

Part	Ordering code	Marking	Remarks
BAS16WS-V	BAS16WS-V-GS18 or BAS16WS-V-GS08	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
Peak reverse voltage		V_{RM}	100	V
Forward current (continuous)		I_F	250	mA
Non-repetitive peak forward current	t = 1 µs	I_{FSM}	2.0	A
	t = 1 ms	I_{FSM}	1.0	A
	t = 1 s	I_{FSM}	0.5	A
Power dissipation		P_{tot}	200	mW

Thermal Characteristics

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

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

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F = 1 mA	V_F			715	mV
	I_F = 10 mA	V_F			855	mV
	I_F = 50 mA	V_F			1000	mV
	I_F = 150 mA	V_F			1250	mV
Leakage current	V_R = 25 V, T_J = 150 °C	I_R			30	µA
	V_R = 75 V	I_R			1	µA
	V_R = 75 V, T_J = 150 °C	I_R			50	µA
Diode capacitance	V_R = 0; f = 1 MHz	C_D			2	pF
Reverse recovery time	I_F = 10 mA to I_R = 10 mA, I_R = 1 mA, R_L = 100 Ω	t_{rr}			6	ns

Typical Characteristics

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

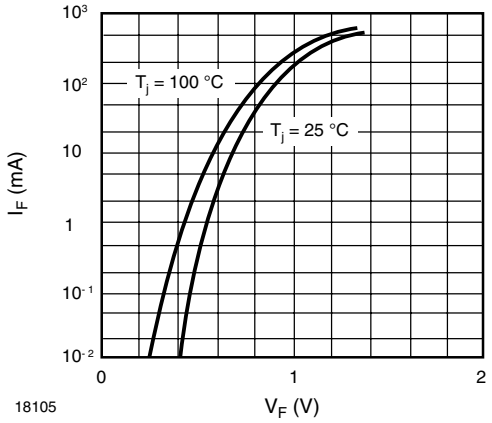


Figure 1. Forward Characteristics

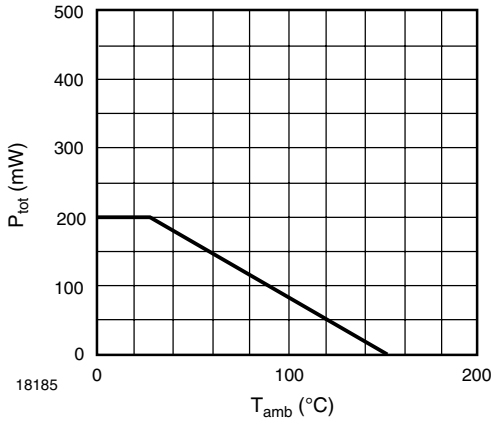


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

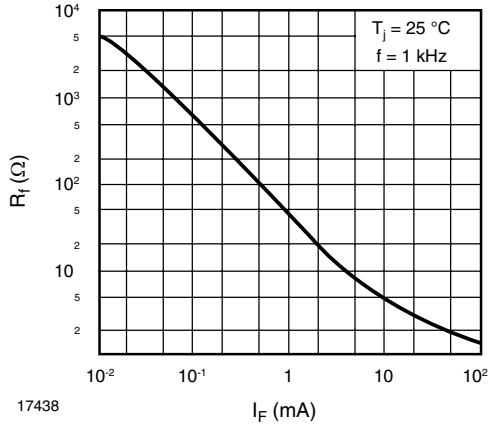


Figure 2. Dynamic Forward Resistance vs. Forward Current

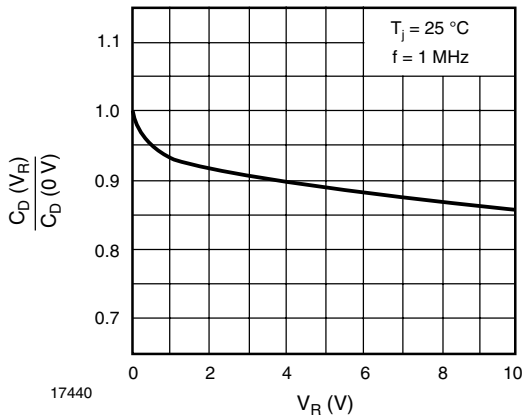


Figure 4. Relative Capacitance vs. Reverse Voltage

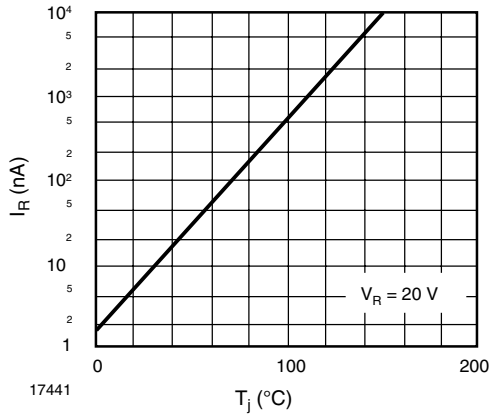
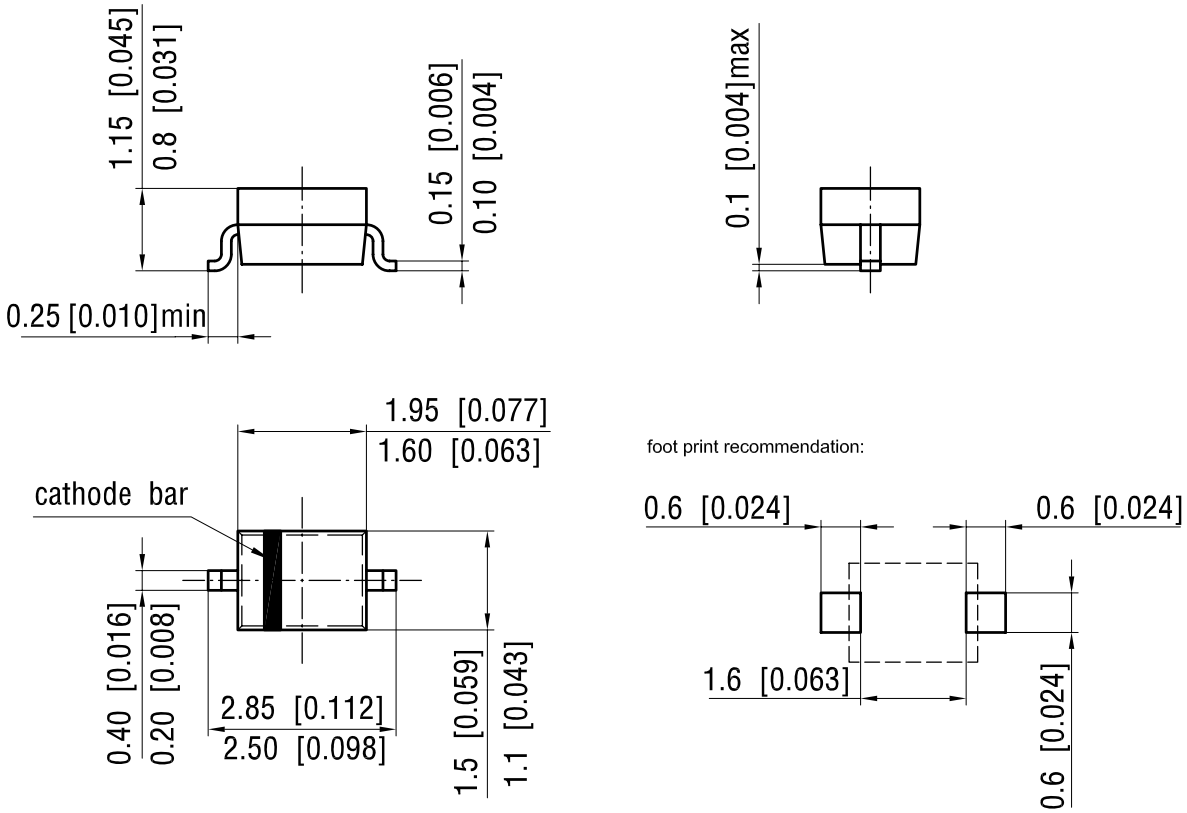


Figure 5. Leakage Current vs. Junction Temperature

Package Dimensions in millimeters (inches): SOD323



Rev. 03 - Date: 08. November 2004
Document no.: S8-V-3910.02-001 (4)
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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.

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

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