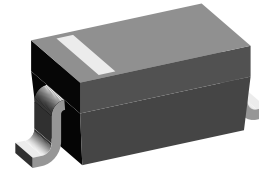


Small Signal Fast Switching Diode

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode
- Also available in case SOT-23 with designation BAS16
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



17431

Mechanical Data

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

Parts Table

Part	Ordering code	Marking	Remarks
BAS16D-V	BAS16D-V-GS18 or BAS16D-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}	350 ¹⁾	mW

¹⁾ Valid provided electrodes are kept at ambient temperature

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Maximum junction temperature		T_J	150	$^{\circ}\text{C}$
Storage temperature		T_S	- 65 to 150 ¹⁾	$^{\circ}\text{C}$

¹⁾ Valid provided electrodes are kept at ambient temperature

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 1\text{ mA}$	V_F			715	mV
	$I_F = 10\text{ mA}$	V_F			855	mV
	$I_F = 50\text{ mA}$	V_F			1.00	V
	$I_F = 150\text{ mA}$	V_F			1.25	V
Leakage current	$V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			30	μA
	$V_R = 75\text{ V}$	I_R			1	μA
	$V_R = 75\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
Diode capacitance	$V_R = 0; f = 1\text{ MHz}$	C_{tot}			2	pF
Reverse recovery time	$I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$, $I_R = 1\text{ mA}, R_L = 100\ \Omega$	t_{rr}			6	ns
Thermal resistance junction to ambient air		R_{thJA}			375 ¹⁾	$^{\circ}\text{C/W}$

¹⁾ Valid provided electrodes are kept at ambient temperature

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

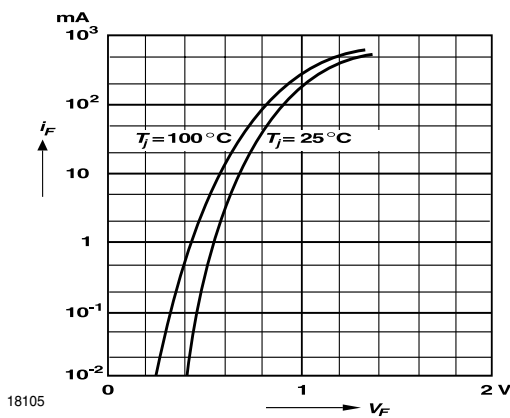


Figure 1. Forward characteristics

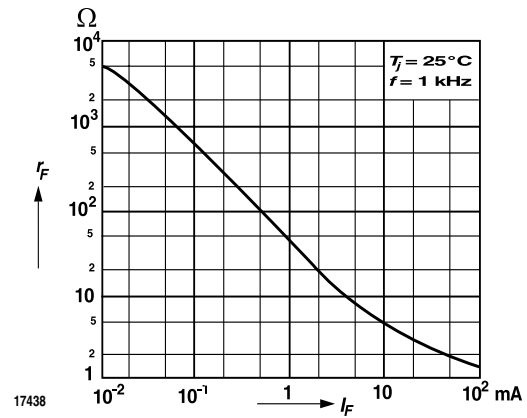


Figure 2. Dynamic Forward Resistance vs. Forward Current

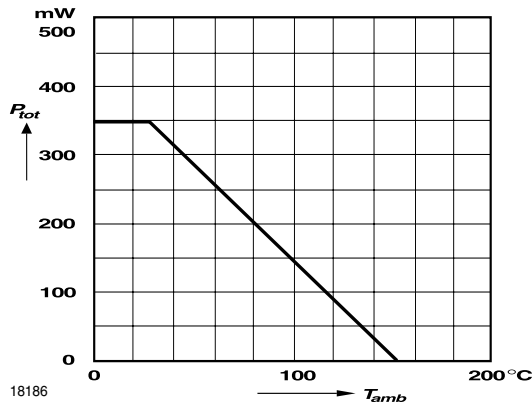


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

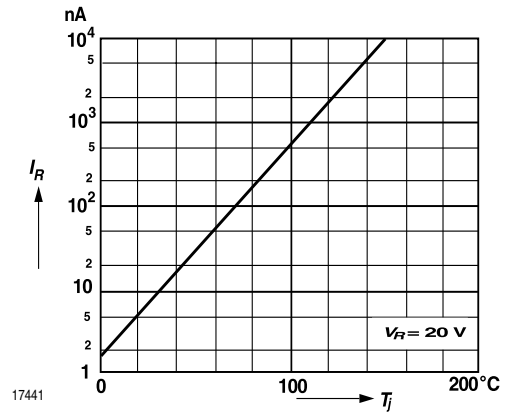


Figure 5. Leakage Current vs. Junction Temperature

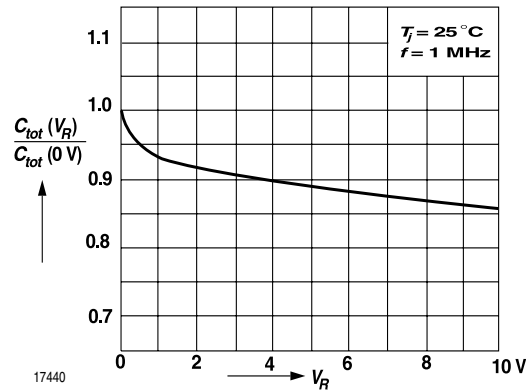


Figure 4. Relative Capacitance vs. Reverse Voltage

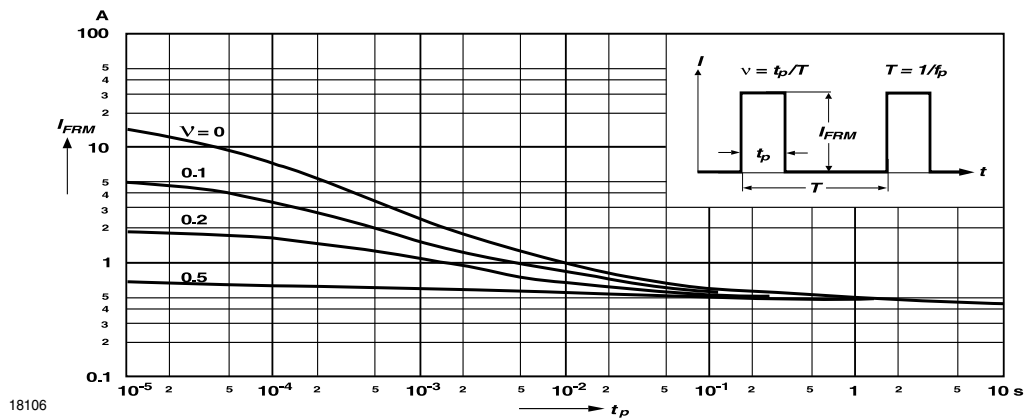
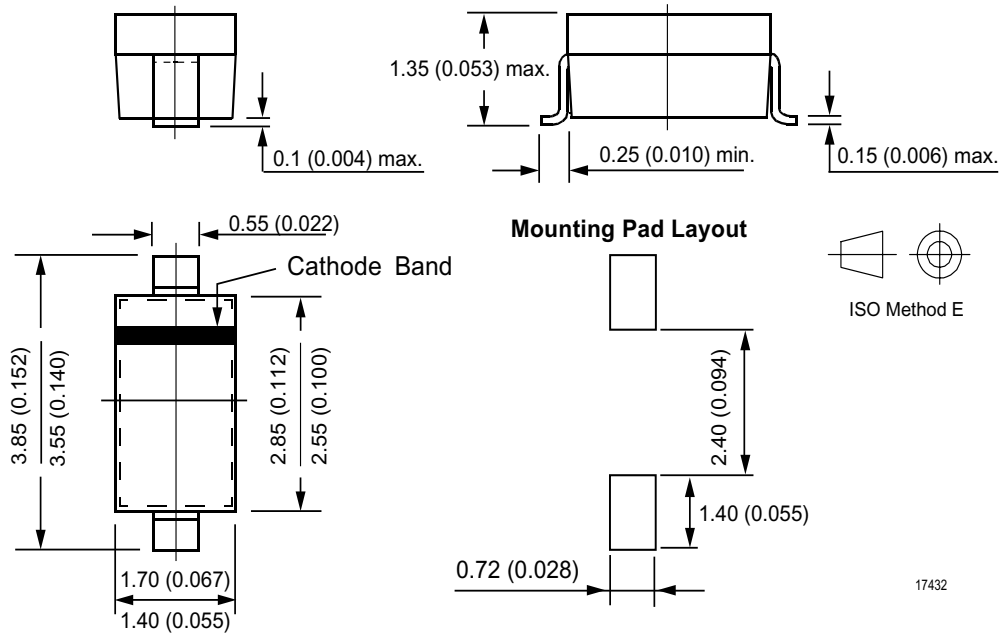


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in mm (Inches)





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



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