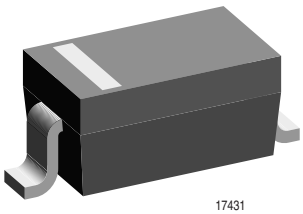
Small Signal Diodes

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode
- Also available in case SOT-23 with designation BAS16



Mechanical Data

Case: SOD-323 Plastic Case
Weight: approx. 4 mg
Marking: A6
Packaging Codes/Options:
D5/10 K per 13" reel (8 mm tape), 30 K/box

D6/3 K per 7" reel (8 mm tape), 30 K/box

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[1)]	mW

[1)] Valid provided electrodes are kept at ambient temperature

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Maximum junction temperature		T_j	150	°C
Storage temperature		T_S	- 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			1.00	V
	I_F = 150 mA	V_F			1.25	V
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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Capacitance	V_R = 0; f = 1 MHz	C_{tot}			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
Thermal resistance junction to ambient air		$R_{\theta JA}$			650	°C/W

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

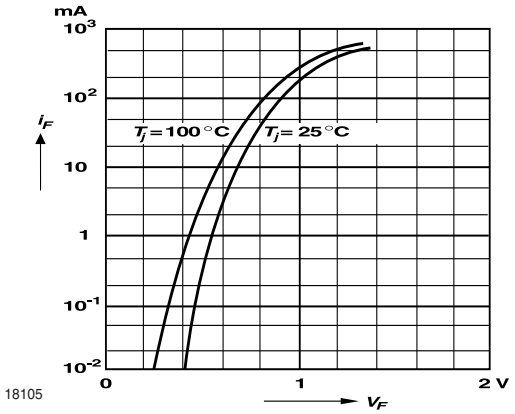


Figure 1. Forward characteristics

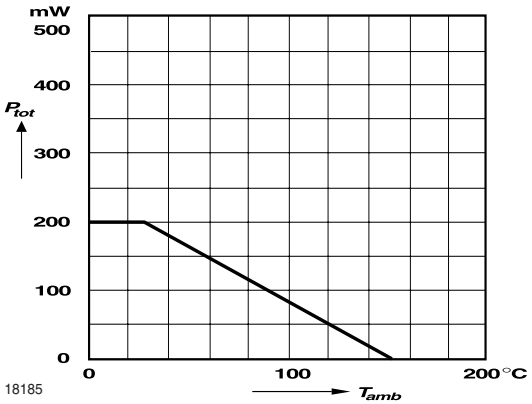


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

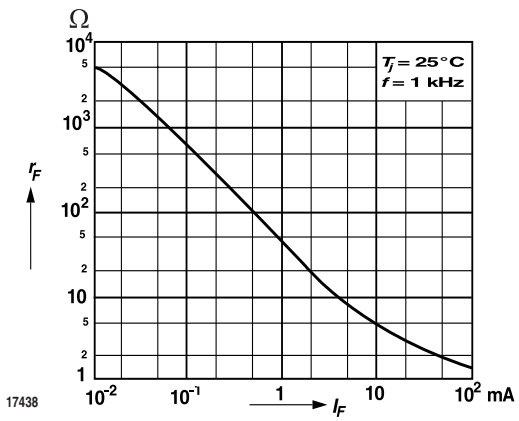


Figure 2. Dynamic Forward Resistance vs. Forward Current

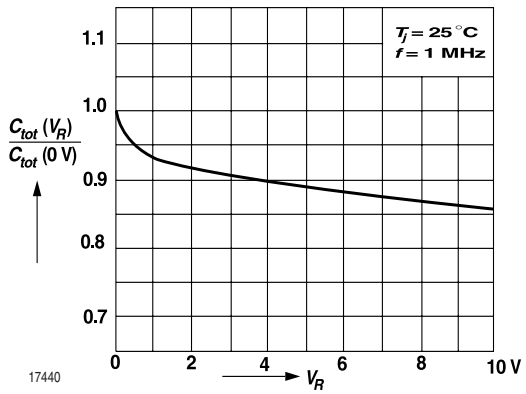


Figure 4. Relative Capacitance vs. Reverse Voltage

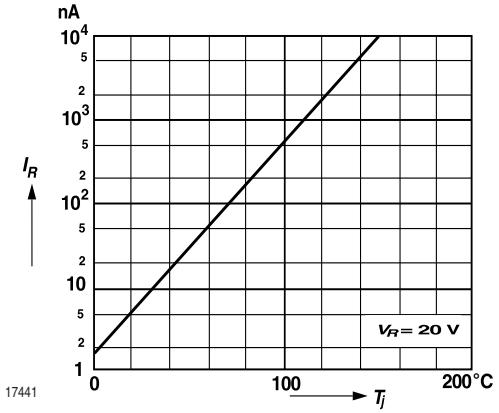


Figure 5. Leakage Current vs. Junction Temperature

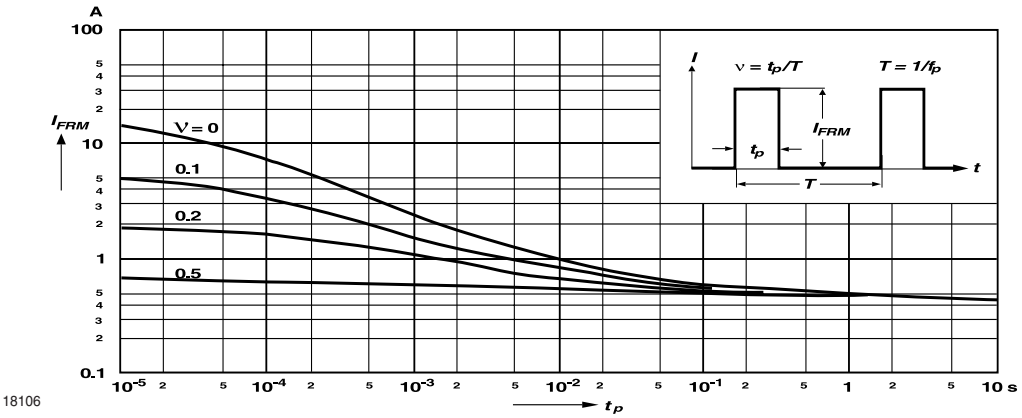
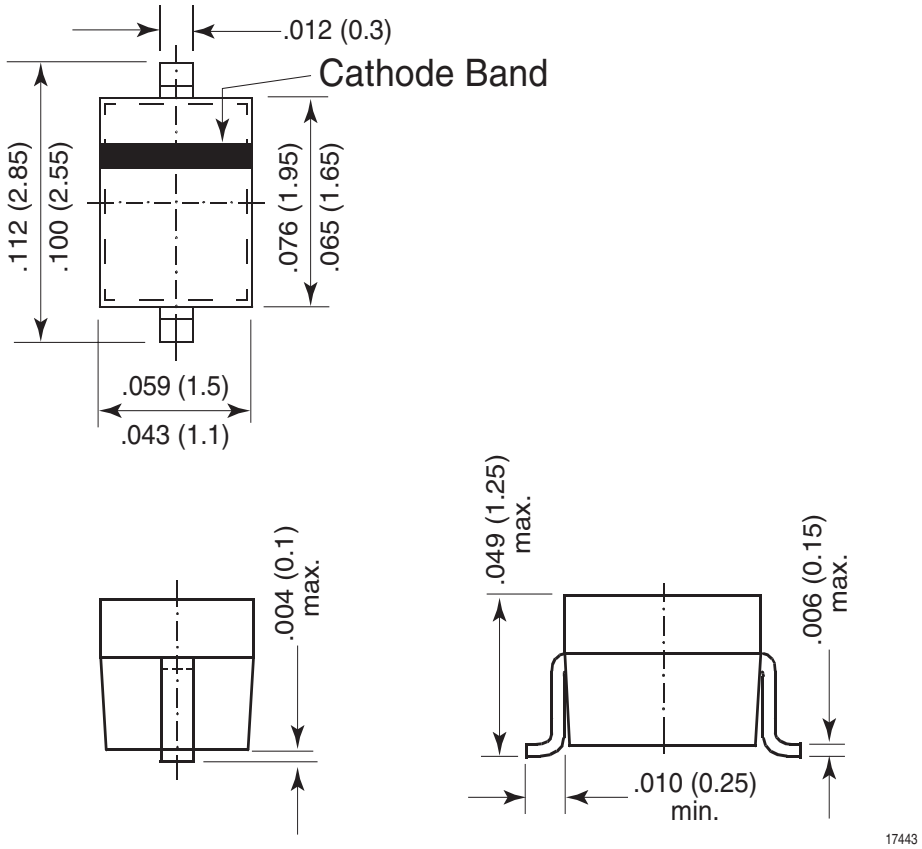
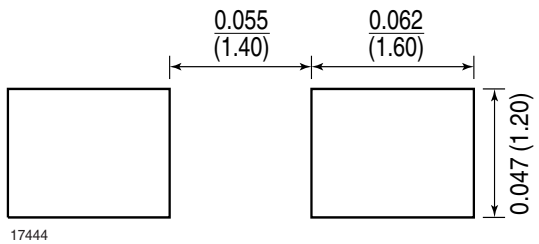


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in Inches (mm)



Mounting Pad Layout



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 operatingsystems 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.

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