

Small Signal Schottky Diode

Features

- Low turn-on voltage
- Fast switching
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharge
- Ideal for precaution of MOS devices, steering, biasing, and coupling diodes for fast switching and low logic level application
- Microminiature plastic package
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



17431

Mechanical Data

Case: SOD-323 Plastic case

Weight: approx. 5.0 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	Type Marking	Remarks
SD106WS	SD106WS-GS18 or SD106WS-GS08	S2	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Continuous reverse voltage		V_R	30	V
Forward current		I_F	200	mA
Forward surge current	$t_p = 10\text{ ms}$	I_{FSM}	1.0	A
Power dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_{tot}	250 ¹⁾	mW

¹⁾ Valid provided that electrodes are kept at ambient temperature.

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	500 ¹⁾	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 125	$^{\circ}\text{C}$

¹⁾ Valid provided that 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
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$	V_R	30			V
Leakage current	$V_R = 30\text{ V}$	I_R			5.0	μA
Forward voltage	$I_F = 2.0\text{ mA}$	V_F		260		mW
	$I_F = 15\text{ mA}$	V_F		320		mW
	$I_F = 100\text{ mA}$	V_F		420		mW
	$I_F = 200\text{ mA}$	V_F		490	550	mW
Diode capacitance	$V_R = 10\text{ V}, f = 1.0\text{ MHz}$	C_{tot}			15	pF

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

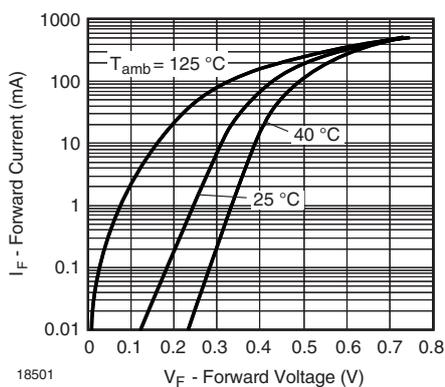


Figure 1. Forward Current vs. Forward Voltage

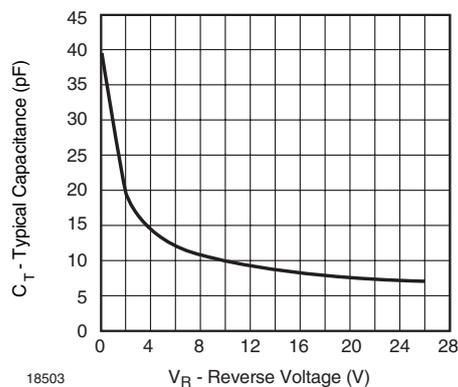


Figure 3. Typical Capacitance $^{\circ}\text{C}$ vs. Reverse Applied Voltage V_R

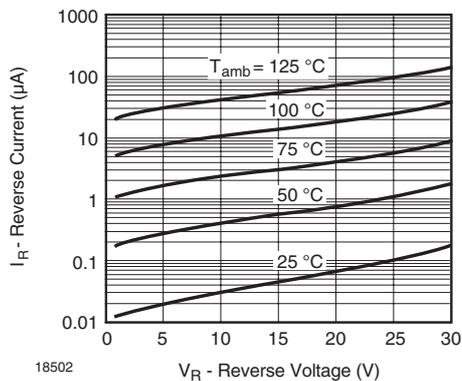
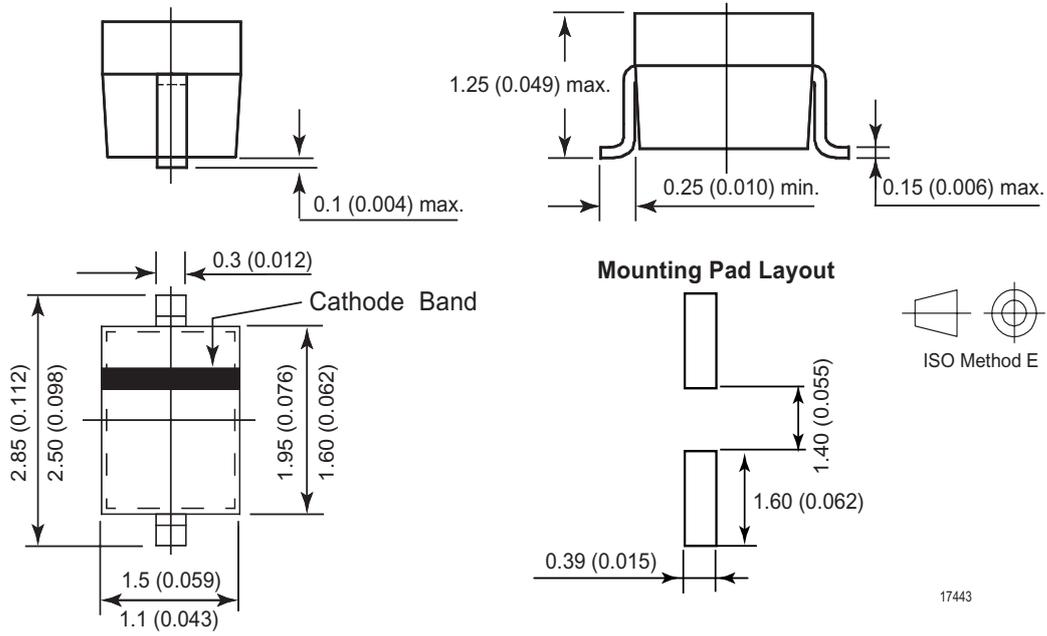


Figure 2. Typical Variation of Reverse Current at Various Temperatures

Package Dimensions in mm (Inches)



17443

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.

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