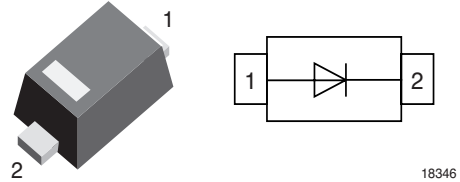


Schottky Diodes

Description

Designed for RF-signal level detection and RF-mixer application the low barrier Schottky Diode BAT15V-02V can be used in wireless and mobile systems up to 12 GHz.

The small space saving SOD-523 package is a contribution to the continuously growing integration density on the PCB and the increasing quality standards. On the electrical side the SOD-523 package is characterized by low inductance and capacitance.



Electrostatic sensitive device.
Observe precautions for handling.

Features

- Low barrier schottky diode
- Small, space saving SOD-523 package with low series inductance
- Small capacitance

Applications

Mixer application up to 12 GHz
RF-Signal level detection

Mechanical Data

Case: Plastic case (SOD 523)

Weight: approx. 1.6 mg

Cathode Band Color: Laser marking

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
BAT15V-02V	BAT15V-02V-GS18 or BAT15V-02V-GS08	U	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	4	V
Forward current		I_F	100	mA
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-55 to +150	$^{\circ}\text{C}$

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction soldering point		R_{thJS}	100	K/W

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse voltage	$I_R = 5\text{ }\mu\text{A}$	V_R	4			V
Forward voltage	$I_F = 1\text{ mA}$	V_F			0.32	V
	$I_F = 10\text{ mA}$	V_F			0.41	V
Diode capacitance	$f = 1\text{ MHz}, V_R = 0$	C_D			0.35	pF
Forward resistance	$I_F = 20\text{ mA to } I_F = 50\text{ mA},$ $f = 100\text{ MHz}$	r_f		6		Ω

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

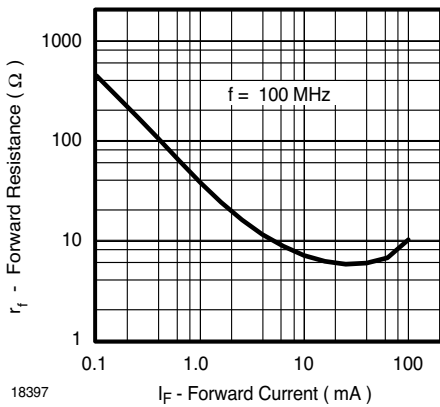


Fig. 1 Forward Resistance vs. Forward Current

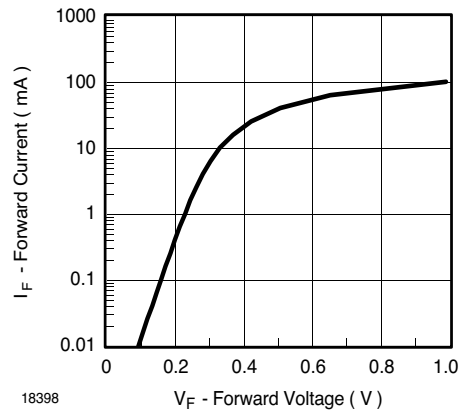


Fig. 3 Forward Current vs. Forward Voltage

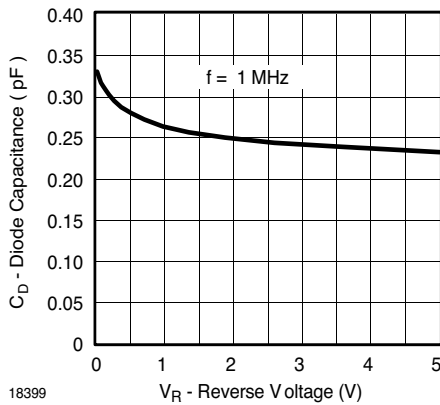


Fig. 2 Diode Capacitance vs. Reverse Voltage

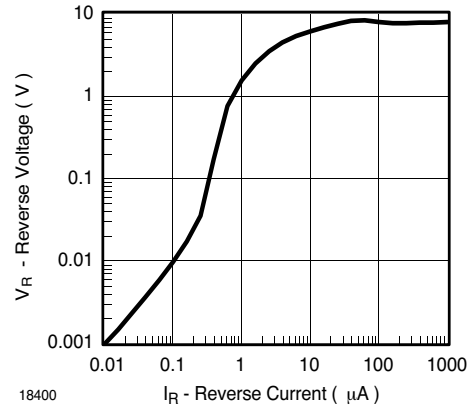
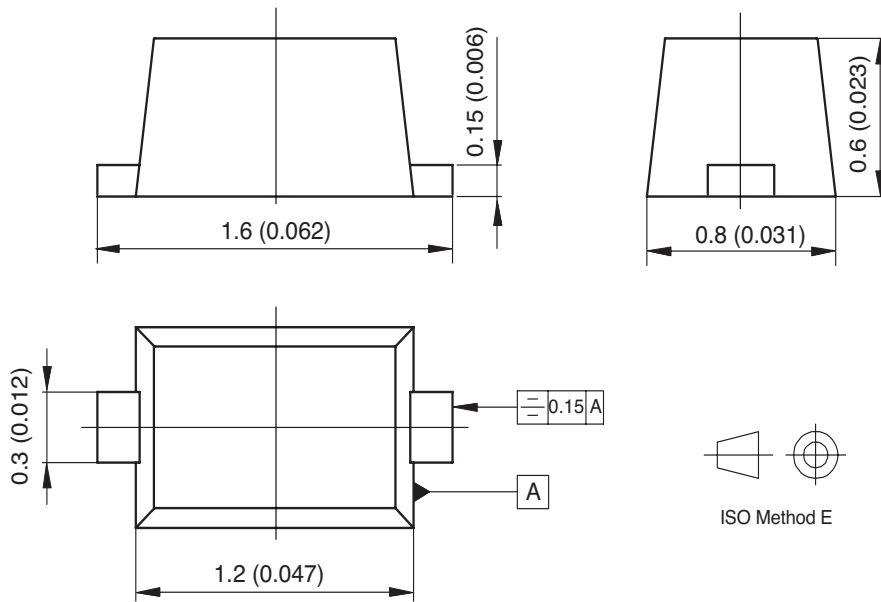


Fig. 4 Reverse Voltage vs. Reverse Current

Package Dimensions in mm (Inches)



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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.

**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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