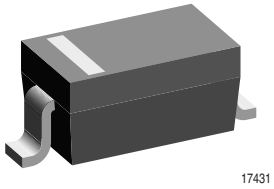
Small Surface Mount Schottky Rectifier

Features

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Low power loss, high efficiency
- High temperature soldering:
  250 °C/10 seconds at terminals



Mechanical Data

Case: SOD-123 plastic case

Polarity: Band denotes cathode end

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
MBR0540	MBR0540-GS18 or MBR0540-GS08	B4	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	40	V
Working peak reverse voltage		V_{RWM}	40	V
Maximum DC blocking voltage		V_R	40	V
Max. average forward rectified current at rated V_R	V_C = 115 °C	I_{FAV}	0.5	A
Peak repetitive forward current at rated V_R	20 kHz square wave, T_C = 115 °C	I_{FRM}	1.0	A
Peak forward surge current	8.3 ms single half sine-wave T_L = 25 °C	I_{FSM}	5.5	A
Voltage rate of change at rated V_R	T_j = 25 °C	dv/dt	1,000	V/µs

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Typical thermal resistance j unction to lead		R_{thJL}	118	°C/W
Typical thermal resistance junction to ambient		R_{thJA}	206	°C/W
Operating junction and storage temperature		T_j, T_{stg}	- 55 to + 150	°C

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Maximum instantaneous forward voltage[1)]	I_F = 0.5 A, T_j = 25 °C	V_F			0.51	V
	I_F = 0.5 A, T_j = 100 °C	V_F			0.46	V
	I_F = 1.0 A, T_j = 25 °C	V_F			0.62	V
	I_F = 1.0 A, T_j = 100 °C	V_F			0.61	V
Maximum DC reverse current	V_R = 40 V, T_j = 25 °C	I_R			20	µA
	V_R = 40 V, T_j = 100 °C	I_R			5.0	mA
	V_R = 20 V, T_j = 25 °C	I_R			10	µA

1) Pulse test: 300 ms pulse width, 1 % duty cycle

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

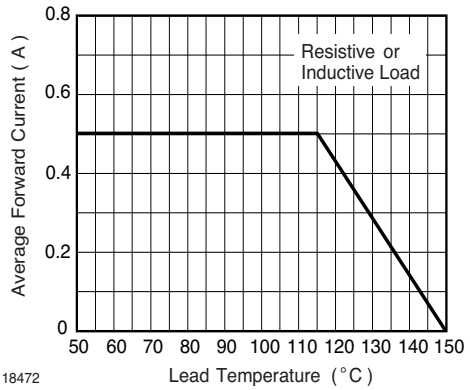


Fig. 1 Derating Curve Output Rectified Current

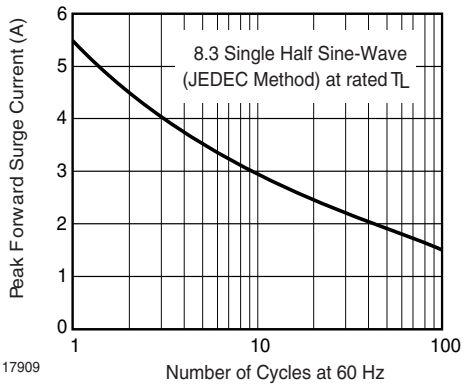


Fig. 2 Maximum Non-Repetitive Peak Forward Surge Current

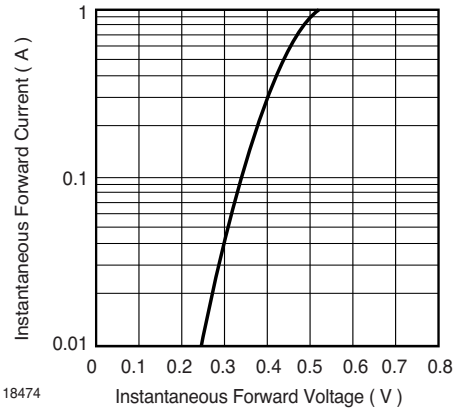


Fig. 3 Typical Instantaneous Forward Characteristics

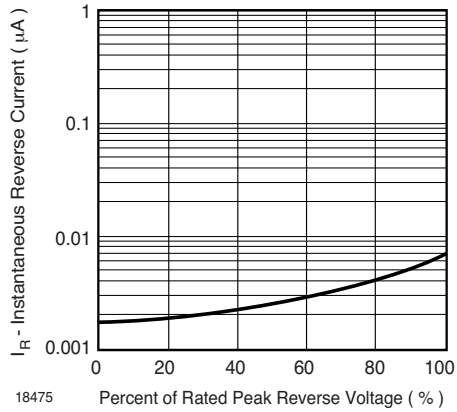


Fig. 4 Typical Reverse Characteristics

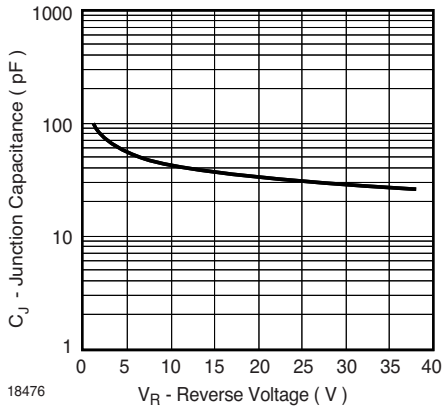
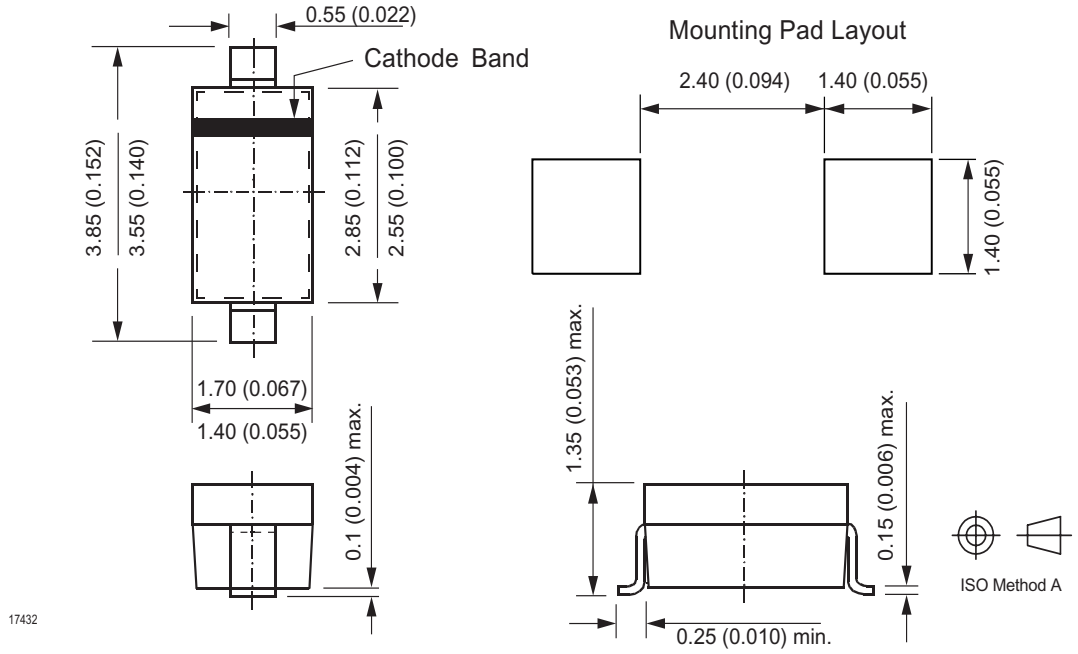


Fig. 5 Typical Junction Capacitance

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 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.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423

Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.