

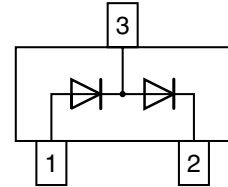
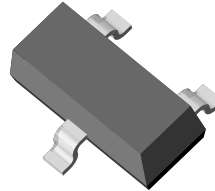
## Small Signal Switching Diode, Dual

### Description

Silicon Epitaxial Planar Diode  
Fast switching dual diode, especially suited for automatic insertion

### Features

- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



18109

### Mechanical Data

**Case:** SOT-23 Plastic case

**Weight:** approx. 8.8 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
MMBD7000-V	MMBD7000-V-GS18 or MMBD7000-V-GS08	M5C	Tape and Reel

### Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		$V_R$	100	V
Forward current (continuous)		$I_F$	200	mA
Non-repetitive peak forward current	$t = 1\text{ s}$	$I_{FSM}$	500	mA
Power dissipation on FR-5 board	$T_A = 25\text{ }^{\circ}\text{C}$	$P_{tot}$	225	mW
	Derate above 25 °C	$P_{tot}$	1.8	mW/°C
Total device dissipation on Alumina substrate	$T_A = 25\text{ }^{\circ}\text{C}$	$P_{tot}$	300	mW
	Derate above 25 °C	$P_{tot}$	2.4	mW/°C

### Thermal Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Typical thermal resistance		R <sub>thJA</sub>	417 <sup>1)</sup>	°C/W
Junction to ambient air		R <sub>thJA</sub>	556 <sup>2)</sup>	mW/°W
Maximum junction temperature		T <sub>j</sub>	150	°C
Storage temperature range		T <sub>S</sub>	- 55 to + 150	°C

<sup>1)</sup> Device on alumina substrate

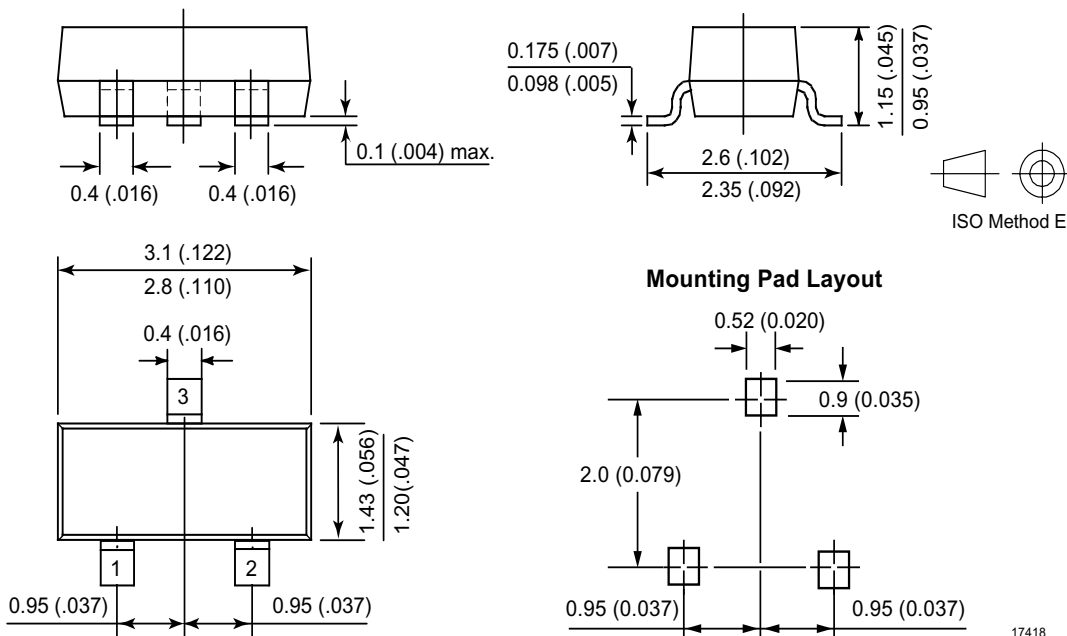
<sup>2)</sup> On FR-5 board

### Electrical Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>BR</sub>	100			V
Leakage current	V <sub>R</sub> = 50 V	I <sub>R</sub>			1.0	μA
	V <sub>R</sub> = 100 V	I <sub>R</sub>			3.0	μA
	V <sub>R</sub> = 50 V, T <sub>j</sub> = 125 °C	I <sub>R</sub>			100	μA
Forward voltage	I <sub>F</sub> = 1 mA	V <sub>F</sub>	0.55		0.70	V
	I <sub>F</sub> = 10 mA	V <sub>F</sub>	0.67		0.82	V
	I <sub>F</sub> = 100 mA	V <sub>F</sub>	0.75		1.10	V
Diode capacitance	V <sub>R</sub> = 0, f = 1 MHz	C <sub>tot</sub>			1.5	pF
Reverse recovery time	I <sub>F</sub> = 10 mA to I <sub>R</sub> = 10 mA, I <sub>rr</sub> = 1 mA, R <sub>L</sub> = 100 Ω	I <sub>rr</sub>			4.0	ns

### 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.

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