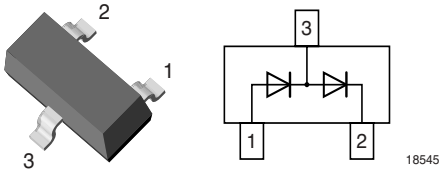
Dual In-Series Small-Signal High-Voltage Switching Diode

Features

- Silicon Epitaxial Planar Diode
- Fast switching dual in-series diode, especially suited for applications requiring high voltage capability



Mechanical Data

Case: SOT-23 (TO-236AB) 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
GSD2004S	GSD2004S-GS18 or GSD2004S-GS08	DB6	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Continuous reverse voltage		V_R	240	V
Peak repetitive reverse voltage		V_{RRM}	300	V
Peak repetitive reverse current		I_{RRM}	200	mA
Forward current (continuous)		I_F	225	mA
Peak repetitive forward current		I_{RFM}	625	mA
Non-repetitive peak forward current	t_p = 1 µs	I_{FSM}	4.0	A
	t_p = 1 s	I_{FSM}	1.0	A
Power dissipation		P_{tot}	350[1)]	mW

[1)] Device on Fiberglass Substrate, see layout on second page

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Typical thermal resistance junction to ambiant air		R_{thJA}	357[1)]	°C/W
Junction temperature		T_j	150	°C
Storage temperature range		T_S	- 65 to + 150	°C

[1)] Device on Fiberglass Substrate, see layout on second page

Electrical Characteristics

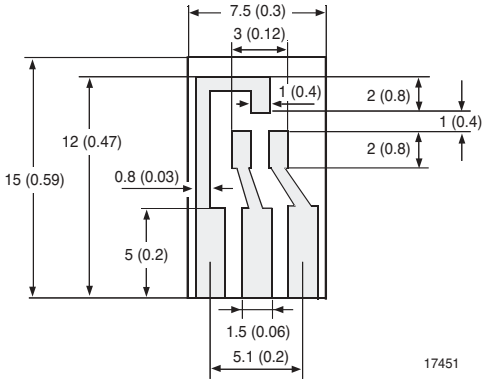
T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	I_R = 100 µA	V_{BR}	300			V
Leakage current	V_R = 240 V	I_R			100	nA
	V_R = 240 V, T_j = 150 °C	I_R			100	µA
Forward voltage	I_F = 20 mA	V_F		0.83	0.87	V
	I_F = 100 mA	V_F			1.00	V
Diode capacitance	$V_F = V_R$ = 0, f = 1 MHz	C_{tot}			5.0	pF
Reverse recovery time	$I_F = I_A$ = 30 mA, I_{rr} = 3.0 mA, R_L = 100 Ω	t_{rr}			50	ns

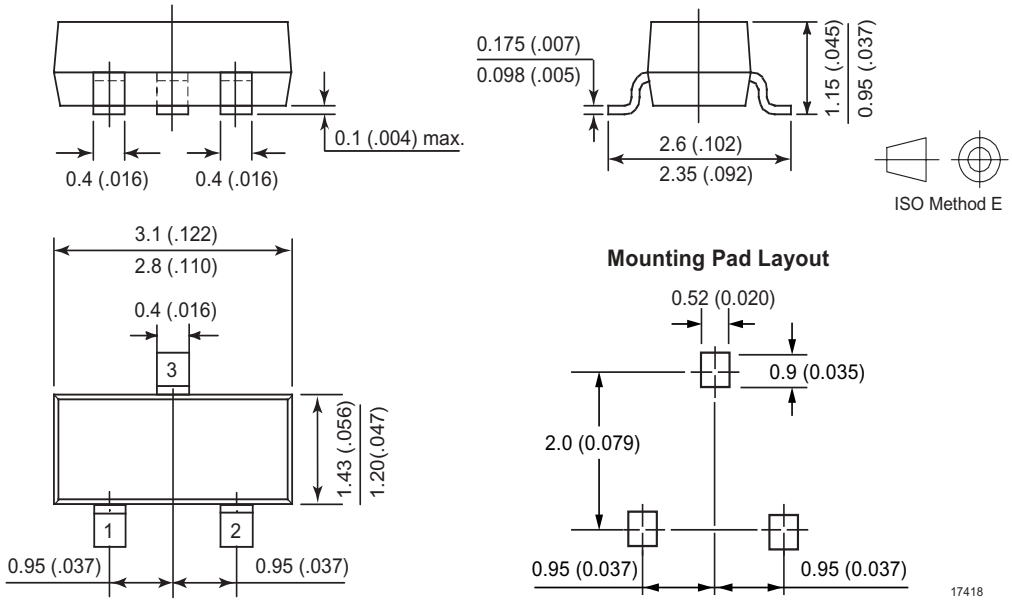
[1] Device on Fiberglass Substrate, see layout

Layout for R_{thJA} test

Thickness:
Fiberglass 1.5 mm (0.059 in.)
Copper leads 0.3 mm (0.012 in.)



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.

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