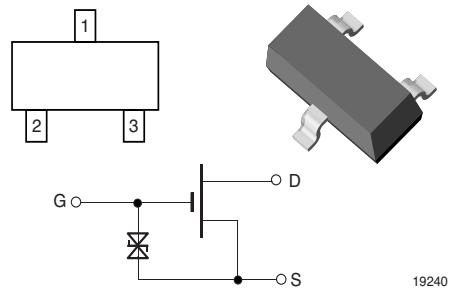
N-Channel MOS-Fieldeffect Triode, Depletion Mode

Features

- Integrated gate protection diode
- Low feedback capacitance
- Low noise figure
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Electrostatic sensitive device.
Observe precautions for handling.

Applications

- High frequency stages up to 300 MHz

Mechanical Data

Case: SOT-23 Plastic case
Weight: approx. 8.0 mg
Pinning: 1 = Source, 2 = Gate, 3 = Drain

Parts Table

Part	Ordering Code	Type marking	Remarks
BF543A	BF543A-GS08	LD	Tape and Reel
BF543B	BF543B-GS08	LD	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Drain - source voltage		V_{DS}	20	V
Drain current		I_D	30	mA
Gate - source peak current		$\pm I_{GSM}$	10	mA
Total power dissipation	$T_{amb} \leq 60$ °C	P_{tot}	200	mW
Channel temperature		T_{Ch}	150	°C
Storage temperature range		T_{stg}	- 55 to +150	°C

Maximum Thermal Resistance

Parameter	Test condition	Symbol	Value	Unit
Channel ambient	1)	R_{thChA}	450	K/W

1) on glass fibre printed board (25 x 20 x 1.5) mm^3 plated with 35 µm Cu

Electrical DC Characteristics

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

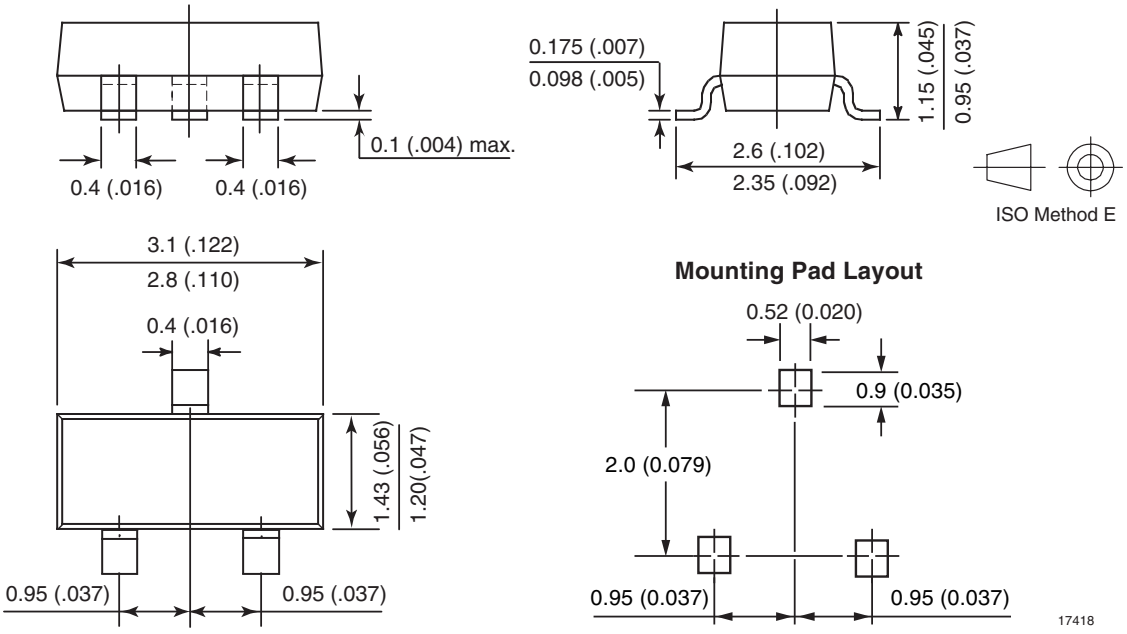
Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Drain - source breakdown voltage	I_D = 10 µA, - V_{GS} = 4 V		$V_{(BR)DS}$	20			V
Gate - source breakdown voltage	± I_{GS} = 10 mA, V_{DS} = 0		± $V_{(BR)GSS}$	7.5		12	V
Gate - source leakage current	± V_{GS} = 6 V, V_{DS} = 0		± I_{GSS}			50	nA
Drain current	V_{DS} = 10 V, V_{GS} = 0		I_{DSS}	1.5		8.0	mA
		BF543A	I_{DSS}	1.5		6.5	mA
		BF543B	I_{DSS}	4.0		8.0	mA
Gate - source cut-off voltage	V_{DS} = 10 V, I_D = 20 µA		- $V_{GS(OFF)}$			2.5	V

Electrical AC Characteristics

T_{amb} = 25 °C, unless otherwise specified
V_{DS} = 10 V, I_D = 4 mA, f = 1 MHz

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward transadmittance		$\|y_{21s}\|$	9.5	12		mS
Gate 1 input capacitance		C_{issg1}		2.7		pF
Feedback capacitance		C_{rss}		25		fF
Output capacitance		C_{oss}		0.9		pF
Noise figure	G_S = 2 mS, G_L = 0.5 mS, f = 200 MHz	F		1.0		dB
Power gain	G_S = 2 mS, G_L = 0.5 mS, f = 200 MHz	G_{ps}		22		dB

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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