

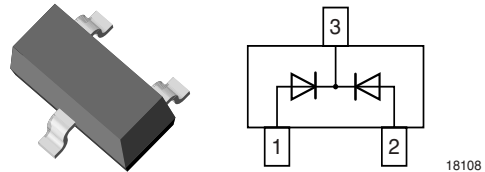
Dual Varicap Diode

Features

- Silicon Epitaxial Planar Diode
- Common cathode

Applications

Tuning of separate resonant circuits, push-pull circuits in FM range, especially for car radios



Mechanical Data

Case: SOT-23 Plastic case

Weight: approx. 8.1 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	Type differentiation	Ordering code	Remarks
BB814	$V_{RRM} = 20\text{ V}$, C_D 43-46, 5 pF	BB814-GS18 or BB814-GS08	Tape and Reel
BB814-1	$V_{RRM} = 20\text{ V}$, C_D 43-45, 5 pF	BB814-1-GS18 or BB814-1-GS08	Tape and Reel
BB814-2	$V_{RRM} = 20\text{ V}$, C_D 44.5-46, 5 pF	BB814-2-GS18 or BB814-2-GS08	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		V_{RRM}	20	V
Reverse voltage		V_R	18	V
Forward current		I_F	50	mA

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

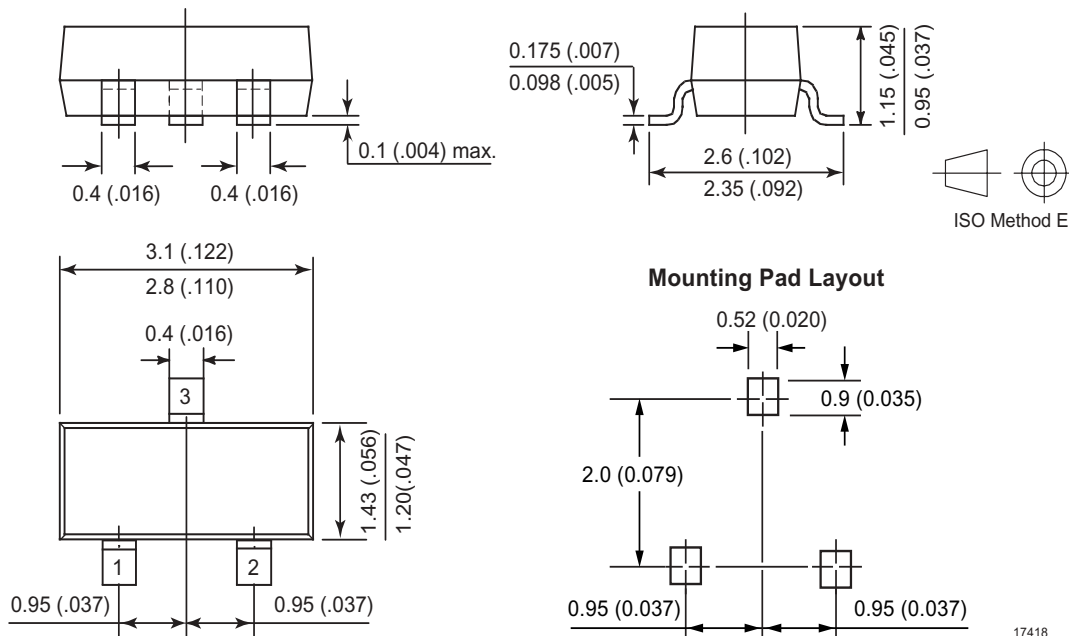
Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse current	$V_R = 16\text{ V}$		I_R			20	nA
	$V_R = 16\text{ V}$, $T_j = 60\text{ }^{\circ}\text{C}$		I_R			200	nA
Diode capacitance ¹⁾	$V_R = 2\text{ V}$	BB814-1	C_D	43		45	pF
Diode capacitance		BB814-2	C_D	44.5		46.5	pF
	$V_R = 8\text{ V}$	BB814-1	C_D	19.1		21.95	pF
		BB814-2	C_D	19.75		22.70	pF
Capacitance ratio	$V_R = 2\text{ V}$, 8 V , $f = 1\text{ MHz}$		C_{D2}/C_{D8}	2.05		2.25	
Series resistance	$C_D = 38\text{ pF}$, $f = 100\text{ MHz}$		r_s			0.5	Ω

¹⁾ In the reverse voltage range of $V_R = (2\text{ to }8\text{ V})$ for 4 diodes taped in sequence the max. deviation is 3 %.

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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