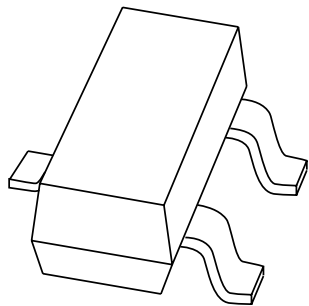


# DATA SHEET



## **BB200**

Low-voltage variable capacitance  
double diode

Product specification

2001 Oct 12

# Low-voltage variable capacitance double diode

BB200

## FEATURES

- Very steep C/V curve
- C1: 70 pF; C4.5: 13.4 pF
- C1 to C5 ratio: min. 5
- Low series resistance
- Small plastic SMD package.

## APPLICATIONS

- Electronic tuning in FM-radio
- Voltage Controlled Oscillators (VCO).

## DESCRIPTION

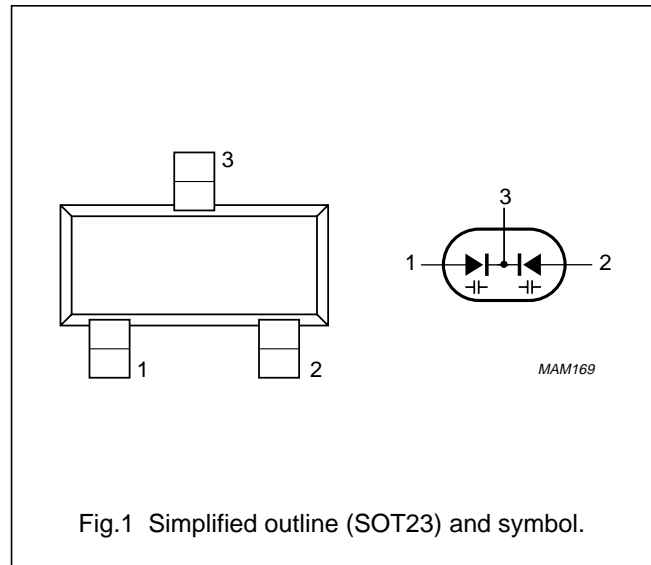
The BB200 is a variable capacitance double diode with a common cathode, fabricated in silicon planar technology and encapsulated in the SOT23 small plastic SMD package.

## MARKING

TYPE NUMBER	MARKING CODE
BB200	SBp

## PINNING

PIN	DESCRIPTION
1	anode (a <sub>1</sub> )
2	anode (a <sub>2</sub> )
3	common cathode



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
<b>Per diode</b>				
V <sub>R</sub>	continuous reverse voltage	–	18	V
I <sub>F</sub>	continuous forward current	–	50	mA
T <sub>stg</sub>	storage temperature range	–55	+150	°C
T <sub>j</sub>	operating junction temperature	–55	+85	°C

## CHARACTERISTICS

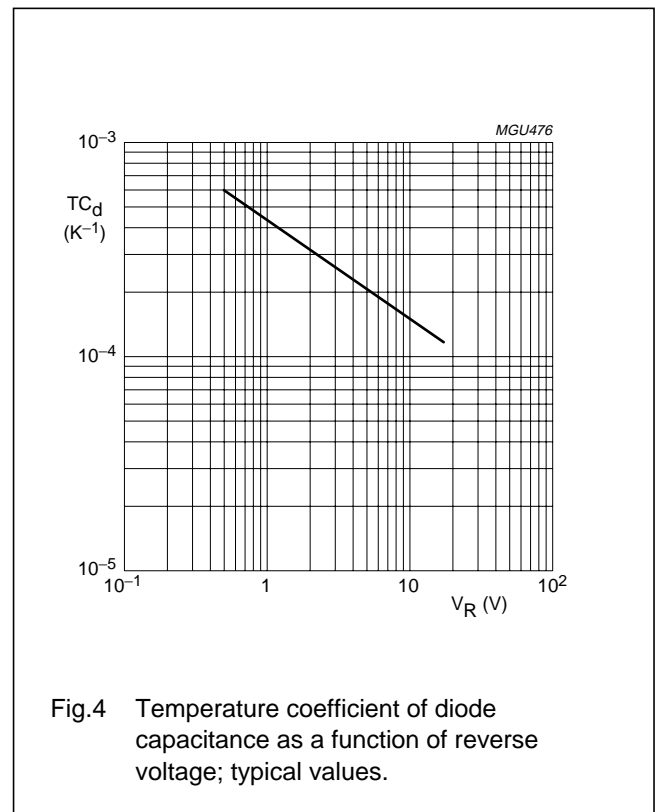
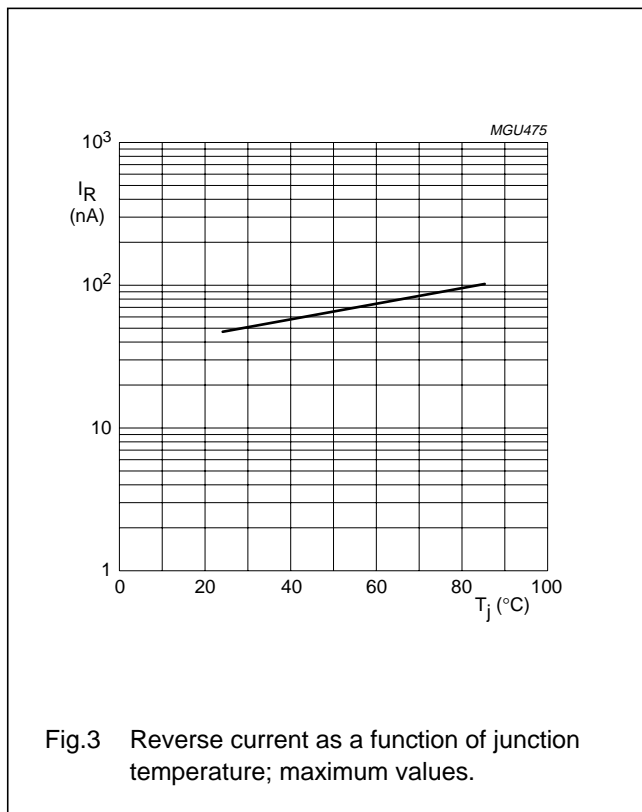
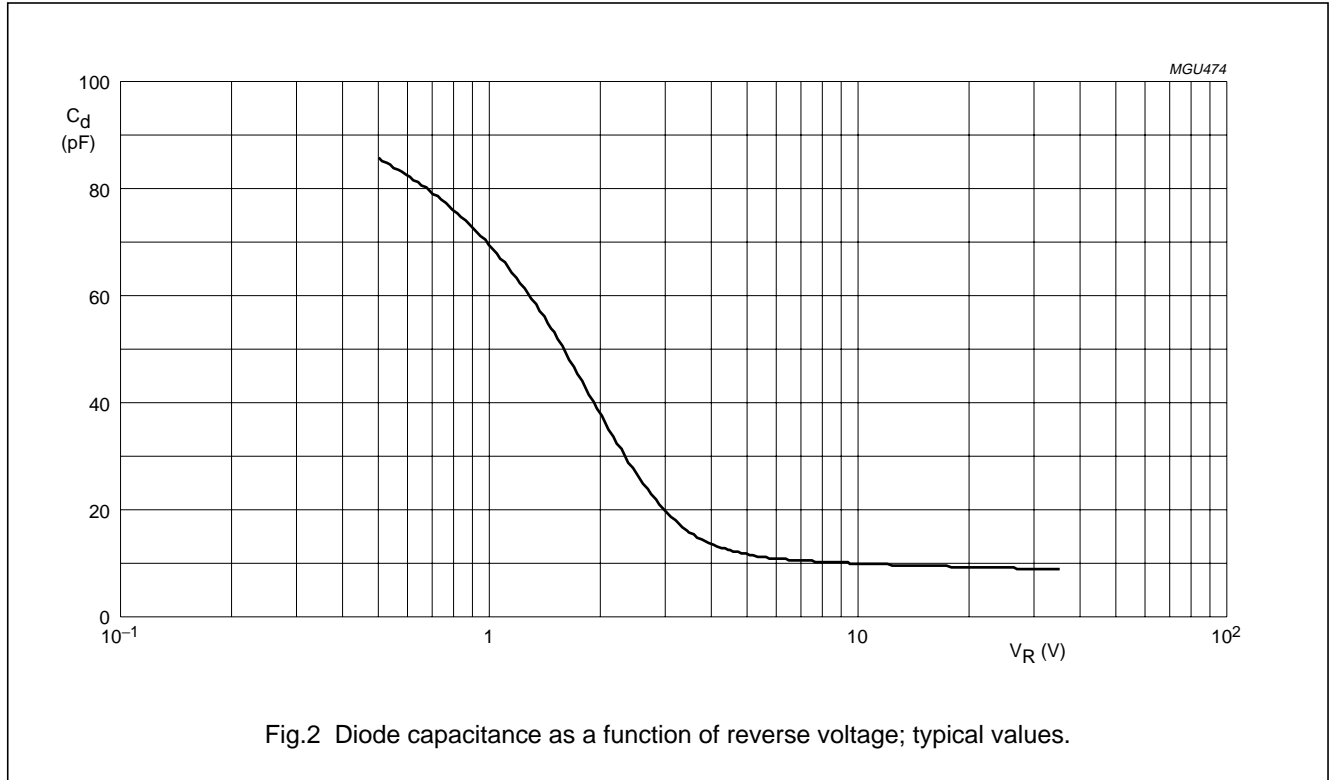
T<sub>j</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
<b>Per diode</b>						
I <sub>R</sub>	reverse current	V <sub>R</sub> = 10 V	–	–	50	nA
r <sub>s</sub>	diode series resistance	f = 100 MHz; V <sub>R</sub> = 1.5 V	–	0.43	0.6	Ω
C <sub>d</sub>	diode capacitance	V <sub>R</sub> = 1 V; f = 1 MHz	65.8	70	74.2	pF
		V <sub>R</sub> = 4.5 V; f = 1 MHz	12	13.4	14.8	pF
$\frac{C_{d(1V)}}{C_{d(5V)}}$	capacitance ratio	f = 1 MHz	5	–	–	

Low-voltage variable capacitance double diode

BB200

GRAPHICAL DATA



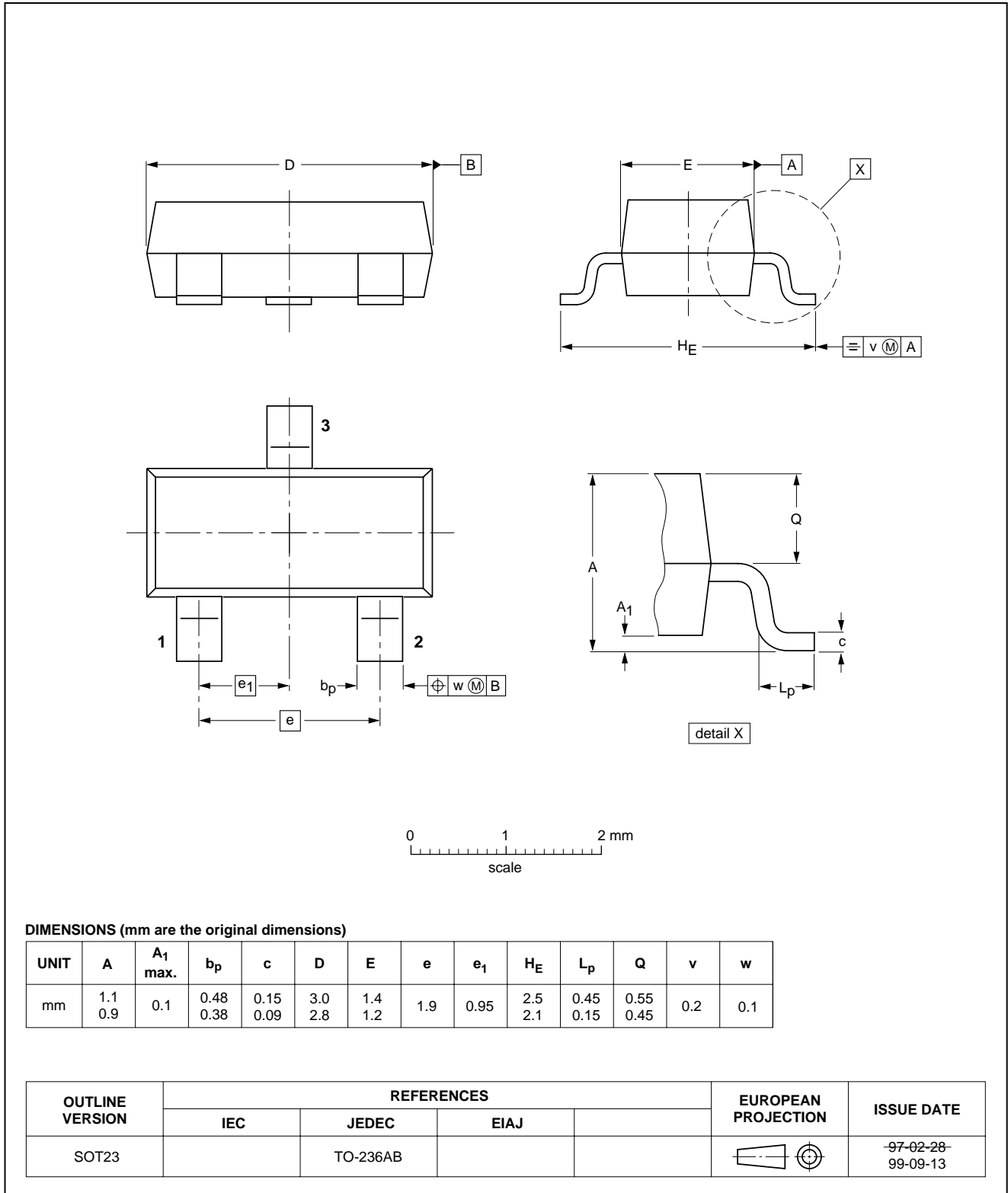
Low-voltage variable capacitance double diode

BB200

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



## Low-voltage variable capacitance double diode

BB200

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Changes will be communicated according to the Customer Product/Process Change Notification (CPCN) procedure SNW-SQ-650A.

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2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.

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Low-voltage variable capacitance double diode

BB200

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**NOTES**

Low-voltage variable capacitance double diode

BB200

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**NOTES**

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