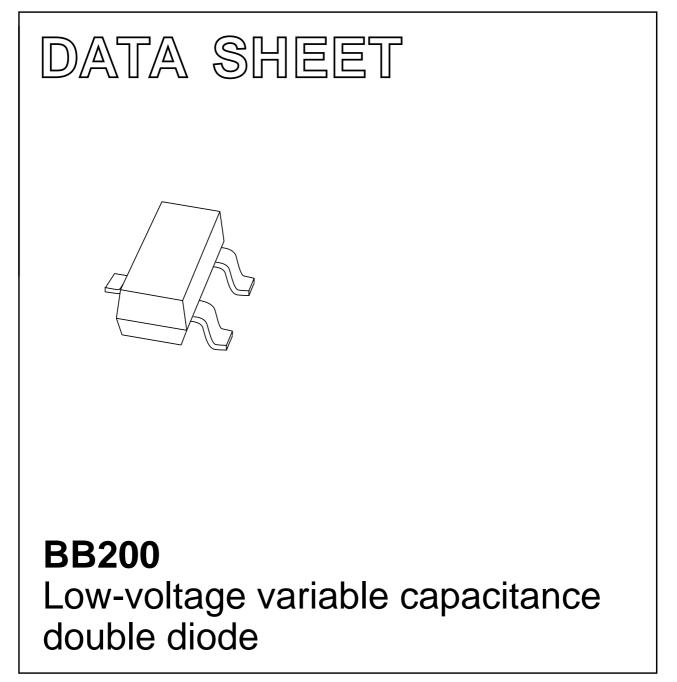
# DISCRETE SEMICONDUCTORS



Product specification

2001 Oct 12



### **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	

### LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Per diode				
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		+150	°C
Tj	operating junction temperature	-55	+85	°C

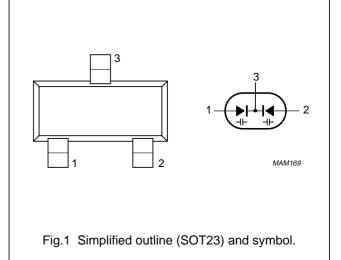
#### **CHARACTERISTICS**

 $T_i = 25 \ ^{\circ}C$  unless otherwise specified.

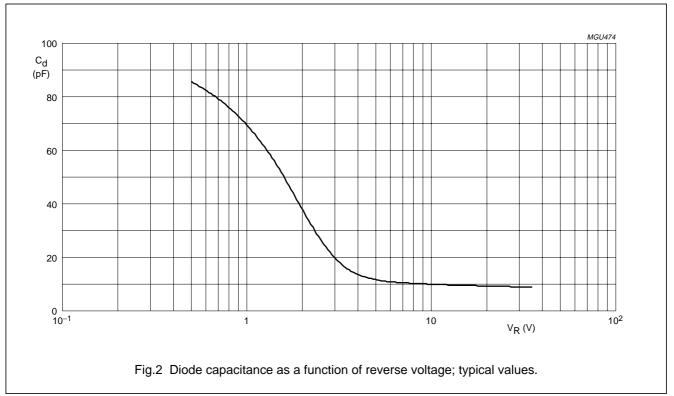
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode						1
I <sub>R</sub>	reverse current	V <sub>R</sub> = 10 V	-	-	50	nA
r <sub>s</sub>	diode series resistance	f = 100 MHz; V <sub>R</sub> = 1.5 V	-	0.43	0.6	Ω
C <sub>d</sub>	diode capacitance	V <sub>R</sub> = 1 V; f = 1 MHz	65.8	70	74.2	pF
		V <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	-	-	

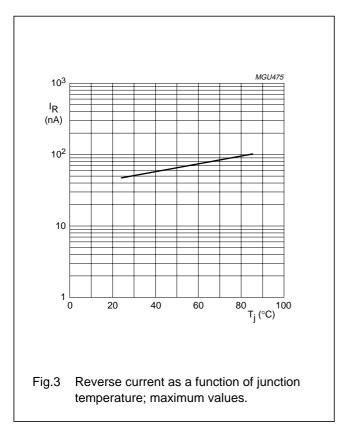
### PINNING

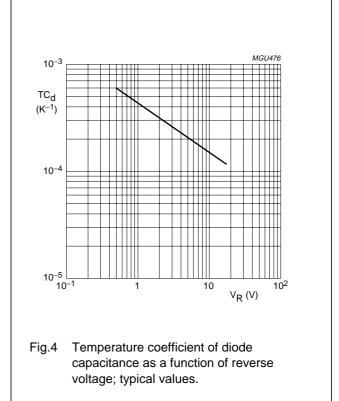
PIN	DESCRIPTION
1	anode (a <sub>1</sub> )
2	anode (a <sub>2</sub> )
3	common cathode



### **GRAPHICAL DATA**

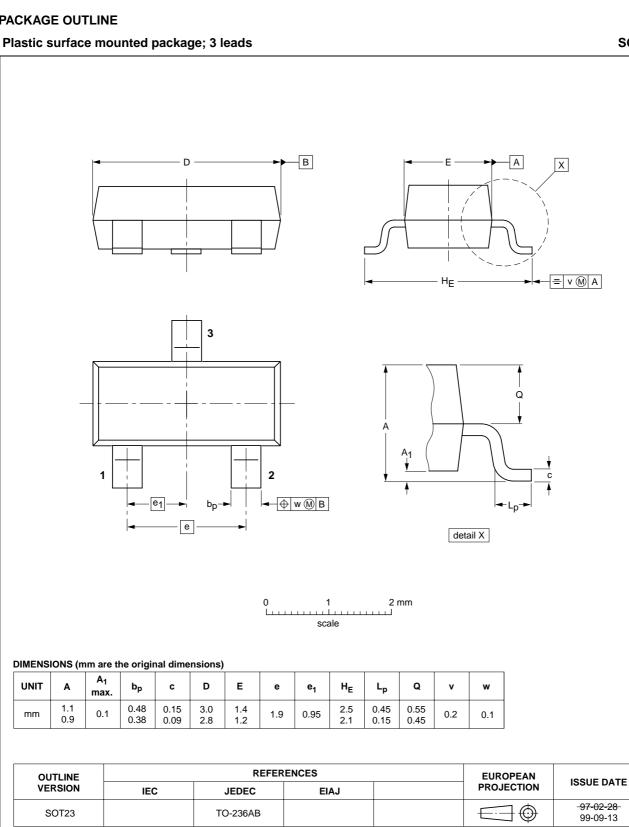






### BB200

### PACKAGE OUTLINE



SOT23

**BB200** 

**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.

#### Notes

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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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Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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BB200

# Low-voltage variable capacitance double diode

NOTES

BB200

# Low-voltage variable capacitance double diode

NOTES

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#### **Contact information**

For additional information please visit http://www.semiconductors.philips.com. Fax: +31 40 27 24825 For sales offices addresses send e-mail to: sales.addresses@www.semiconductors.philips.com.

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Printed in The Netherlands

613514/01/pp**8** 

Date of release: 2001 Oct 12

Document order number: 9397 750 08683

SCA73

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