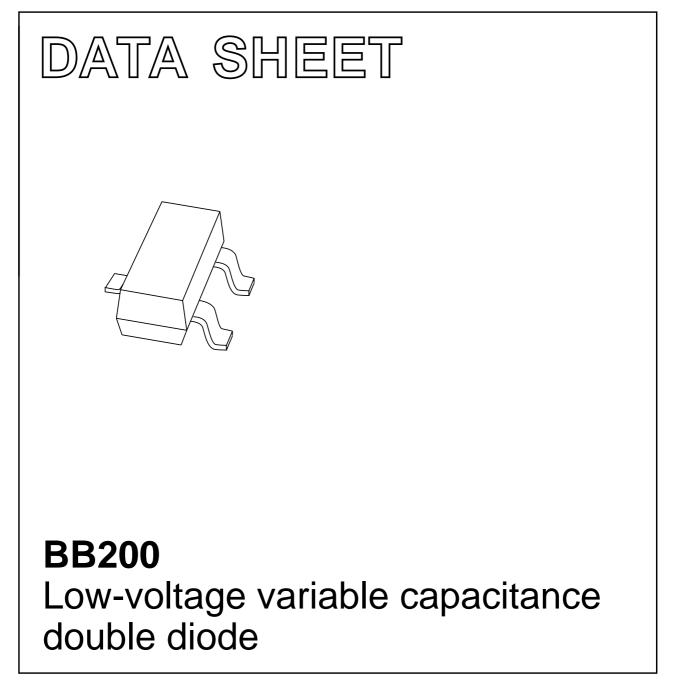
DISCRETE SEMICONDUCTORS



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 _R | continuous reverse voltage | _ | 18 | V |
| I _F | continuous forward current | | 50 | mA |
| T _{stg} | storage temperature range | | +150 | °C |
| Tj | operating junction temperature | -55 | +85 | °C |

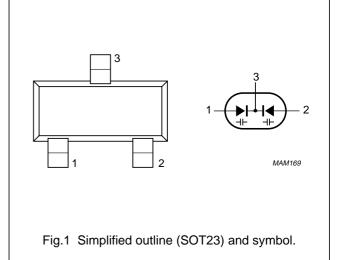
CHARACTERISTICS

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

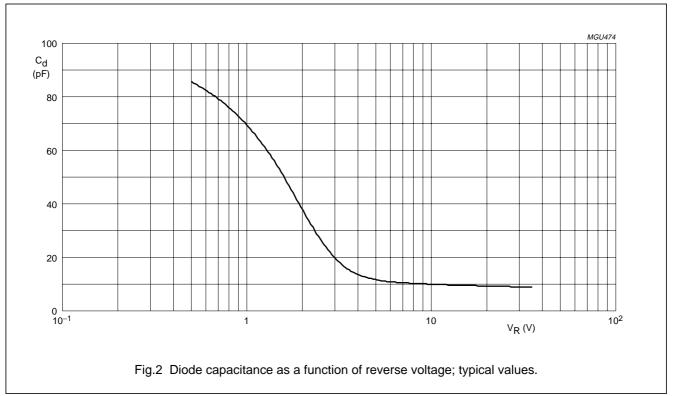
| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|-------------------------------|-------------------------|-------------------------------------|------|------|------|------|
| Per diode | | | | | | 1 |
| I _R | reverse current | V _R = 10 V | - | - | 50 | nA |
| r _s | diode series resistance | f = 100 MHz; V _R = 1.5 V | - | 0.43 | 0.6 | Ω |
| C _d | diode capacitance | V _R = 1 V; f = 1 MHz | 65.8 | 70 | 74.2 | pF |
| | | V _R = 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 | - | - | |

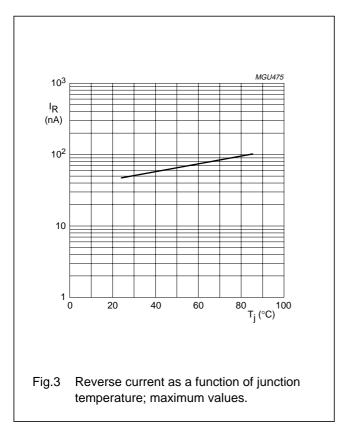
PINNING

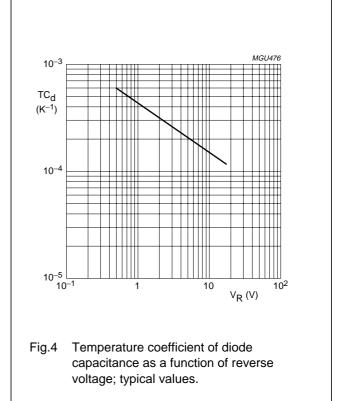
| PIN | DESCRIPTION |
|-----|-------------------------|
| 1 | anode (a ₁) |
| 2 | anode (a ₂) |
| 3 | common cathode |



GRAPHICAL DATA

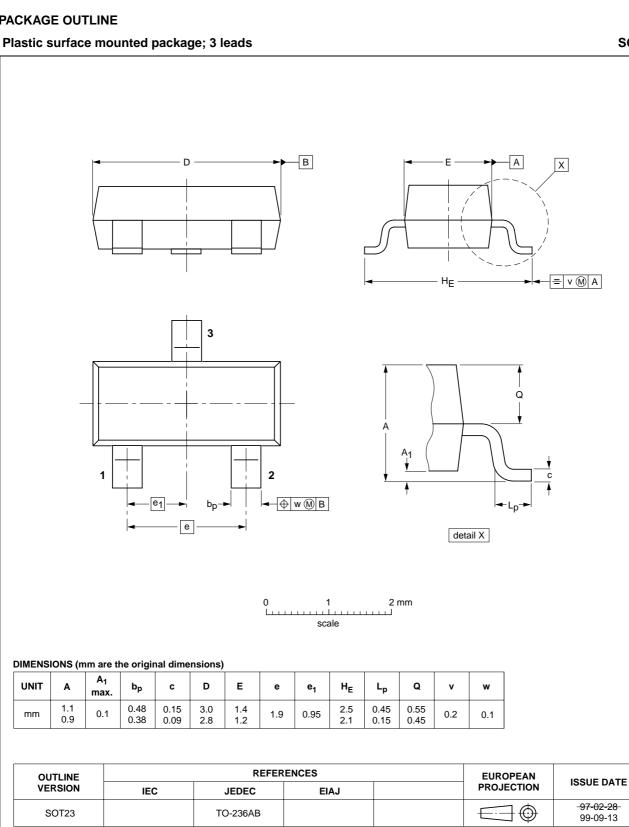






BB200

PACKAGE OUTLINE



SOT23

BB200

BB200

DATA SHEET STATUS

| DATA SHEET STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | 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

- 1. Please consult the most recently issued data sheet before initiating or completing a design.
- 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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Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

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

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