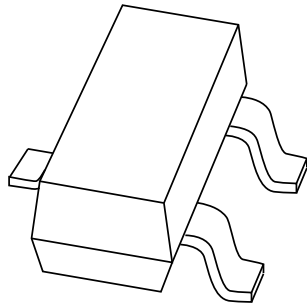


# DATA SHEET



## **BB201**

Low-voltage variable capacitance  
double diode

# Low-voltage variable capacitance double diode

**BB201**

**FEATURES**

- Excellent linearity
- C1: 95 pF; C7.5: 27.6 pF
- C1 to C7.5 ratio: min. 3.1
- Very low series resistance
- Small plastic SMD package.

**APPLICATIONS**

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

**DESCRIPTION**

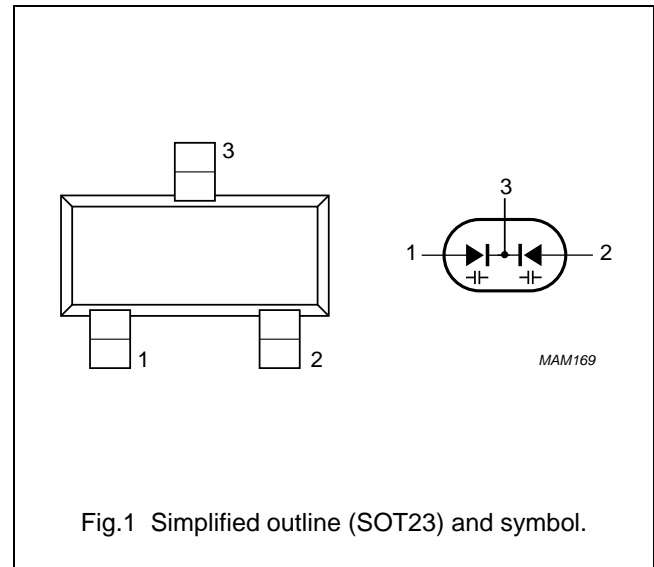
The BB201 is a variable capacitance double diode with a common cathode, fabricated in silicon planar technology and encapsulated in the SOT23 small plastic SMD package.

**MARKING**

TYPE NUMBER	MARKING CODE
BB201	SCp

**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	–	15	V
I <sub>F</sub>	continuous forward current	–	20	mA
T <sub>stg</sub>	storage temperature range	–55	+125	°C
T <sub>j</sub>	operating junction temperature	–55	+125	°C

# Low-voltage variable capacitance double diode

BB201

## 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> = 15 V	–	–	10	nA
		V <sub>R</sub> = 15 V; T <sub>j</sub> = 85 °C	–	–	200	nA
r <sub>S</sub>	diode series resistance	f = 100 MHz; V <sub>R</sub> = 3 V	–	0.25	0.5	Ω
C <sub>d</sub>	diode capacitance	V <sub>R</sub> = 1 V; f = 1 MHz	89	95	102	pF
		V <sub>R</sub> = 3 V; f = 1 MHz	–	60	–	pF
		V <sub>R</sub> = 7.5 V; f = 1 MHz	25.5	27.6	29.7	pF
		V <sub>R</sub> = 8 V; f = 1 MHz	–	25.5	–	pF
$\frac{C_{d(1V)}}{C_{d(7.5V)}}$	capacitance ratio	f = 1 MHz	3.1	–	3.8	

## GRAPHICAL DATA

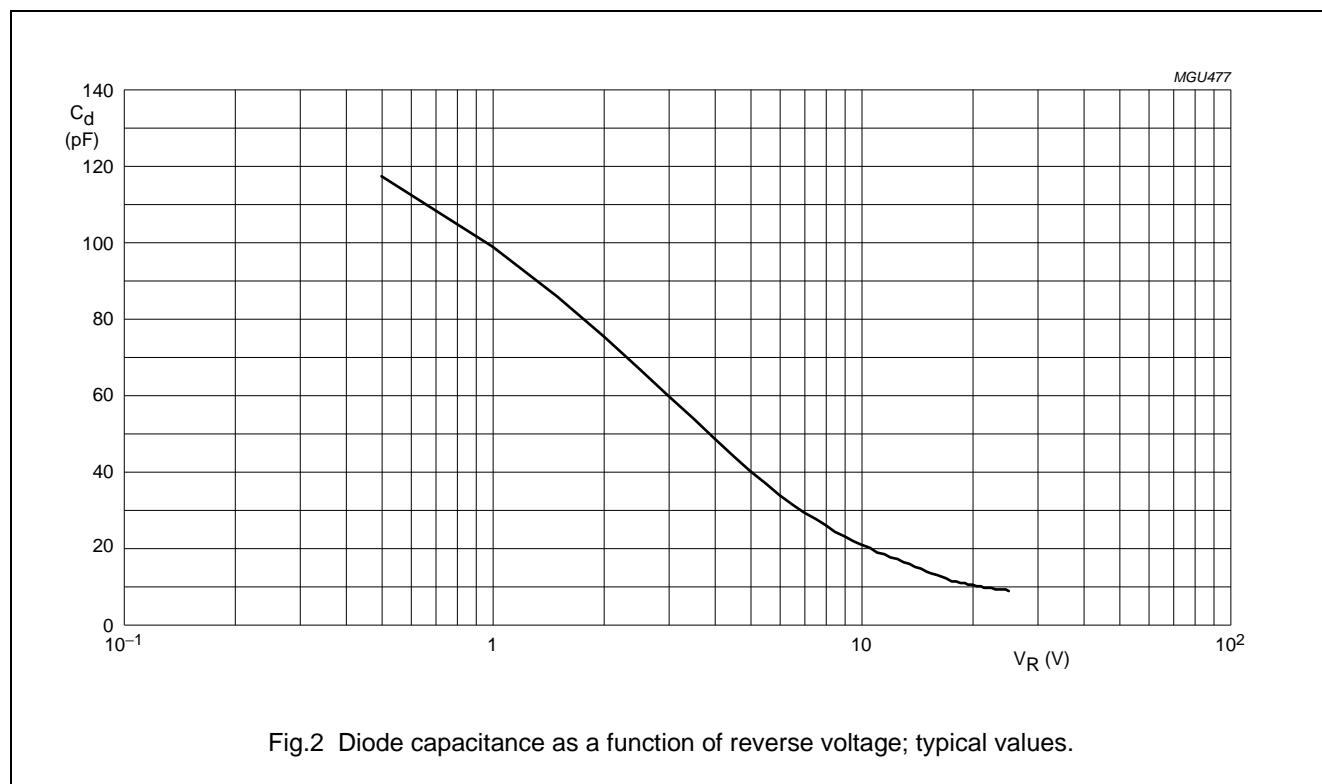


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

# Low-voltage variable capacitance double diode

BB201

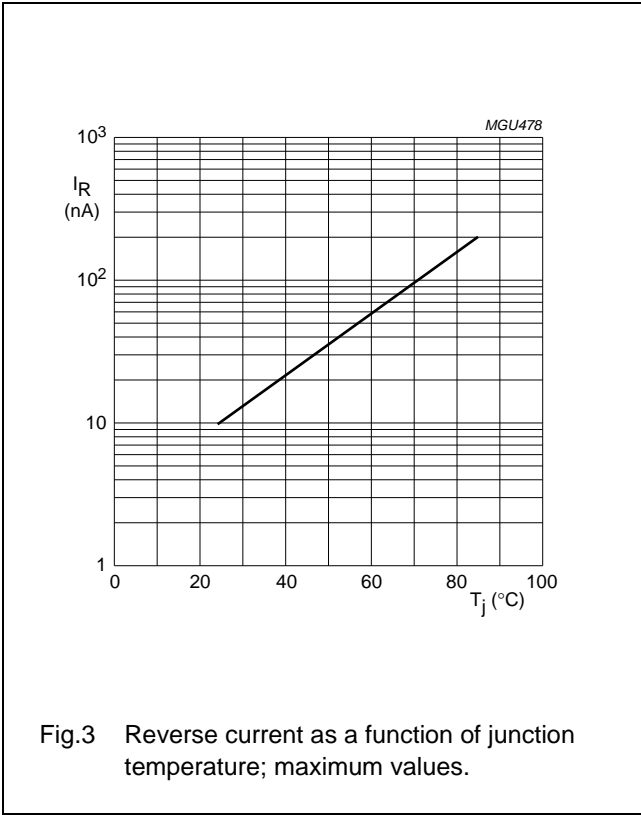


Fig.3 Reverse current as a function of junction temperature; maximum values.

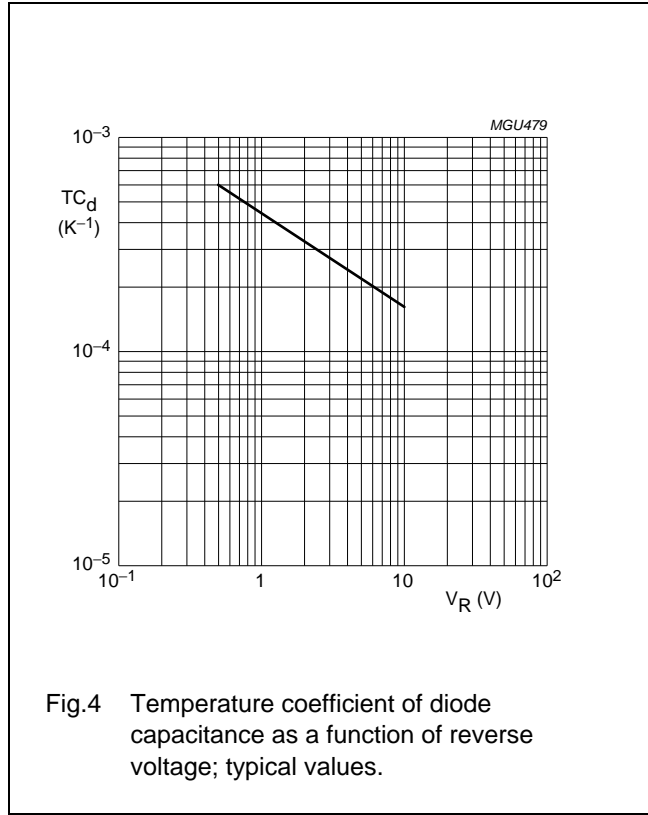


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

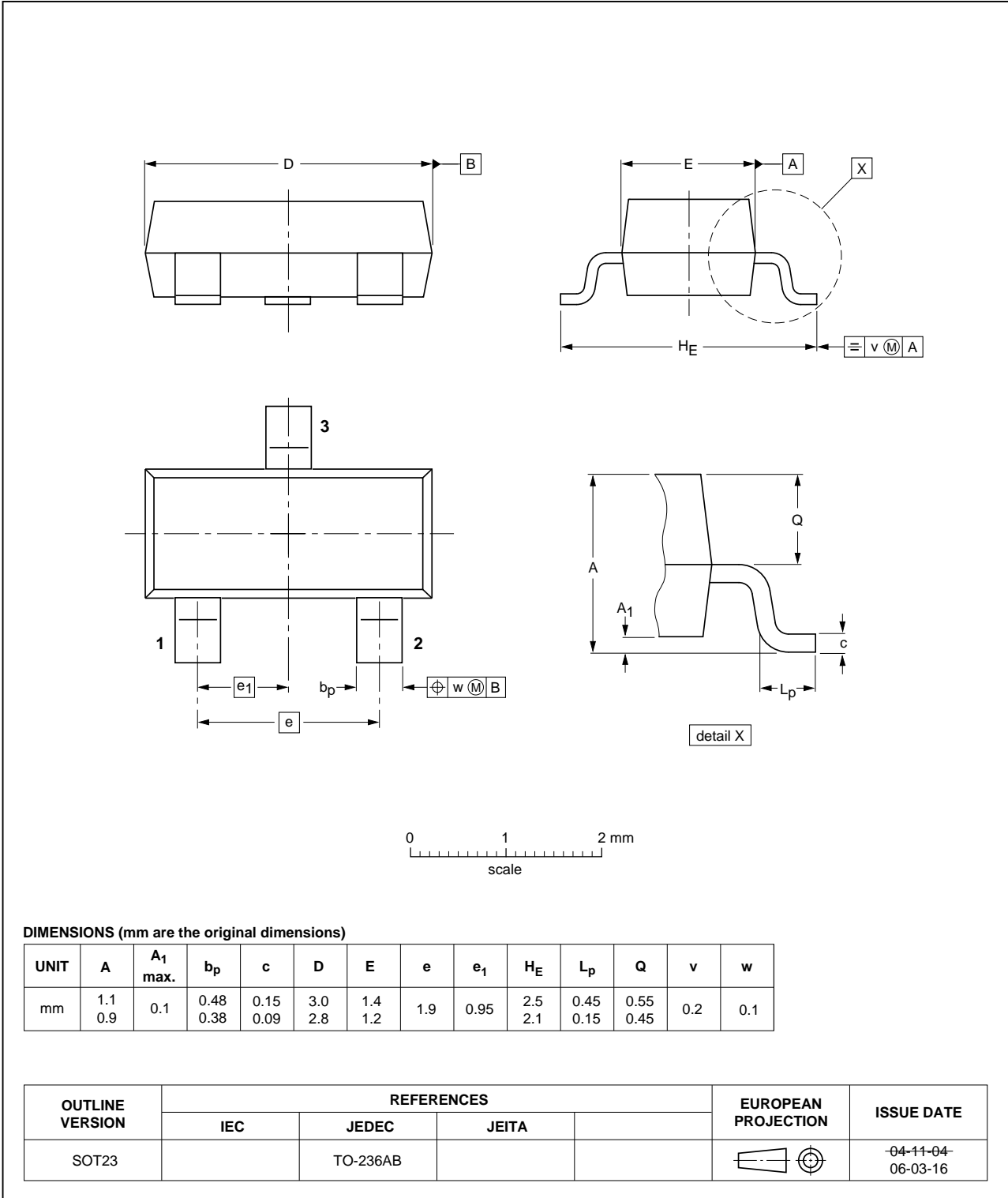
# Low-voltage variable capacitance double diode

BB201

## PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



# Low-voltage variable capacitance double diode

BB201

## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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## Low-voltage variable capacitance double diode

BB201

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## **Contact information**

For additional information please visit: <http://www.nxp.com>

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