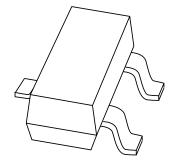
# DISCRETE SEMICONDUCTORS

# DATA SHEET



# **BB201**

Low-voltage variable capacitance double diode

**Product specification** 

2001 Oct 12



# 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**

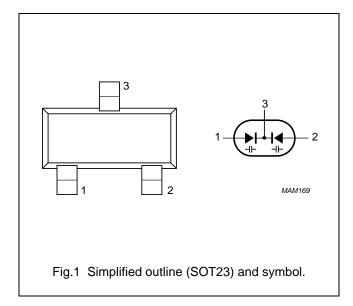
The BB201 is a variable capacitance double diode with a common cathode, fabricated in silicon planar technology and encapsulated in the SOT23 small plastic SMD package.

# **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		MAX.	UNIT
Per diode				
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		+125	°C
Tj	operating junction temperature	<b>-55</b>	+125	°C

# Low-voltage variable capacitance double diode

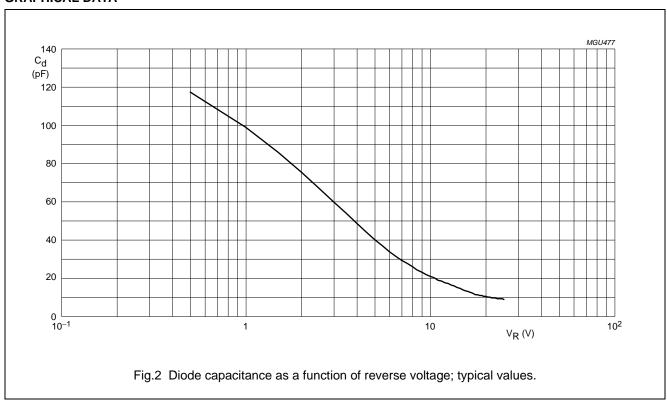
**BB201** 

# **CHARACTERISTICS**

 $T_j = 25$  °C unless otherwise specified.

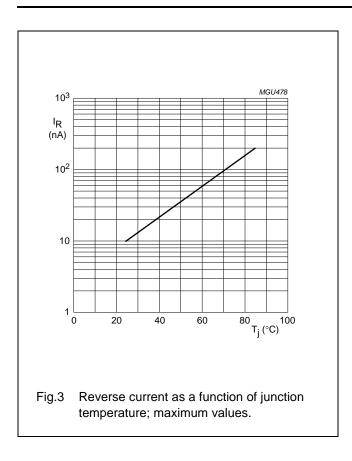
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode		•				
I <sub>R</sub>	reverse current	V <sub>R</sub> = 15 V	-	_	10	nA
		V <sub>R</sub> = 15 V; T <sub>j</sub> = 85 °C	_	-	200	nA
r <sub>S</sub>	diode series resistance	f = 100 MHz; V <sub>R</sub> = 3 V	_	0.25	0.5	Ω
C <sub>d</sub>	diode capacitance	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
		$V_R = 8 \text{ V}; f = 1 \text{ MHz}$	_	25.5	-	pF
$\frac{C_{d(1V)}}{C_{d(7.5V)}}$	capacitance ratio	f = 1 MHz	3.1	-	3.8	

# **GRAPHICAL DATA**



# Low-voltage variable capacitance double diode

**BB201** 



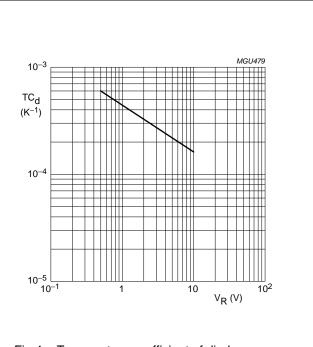


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

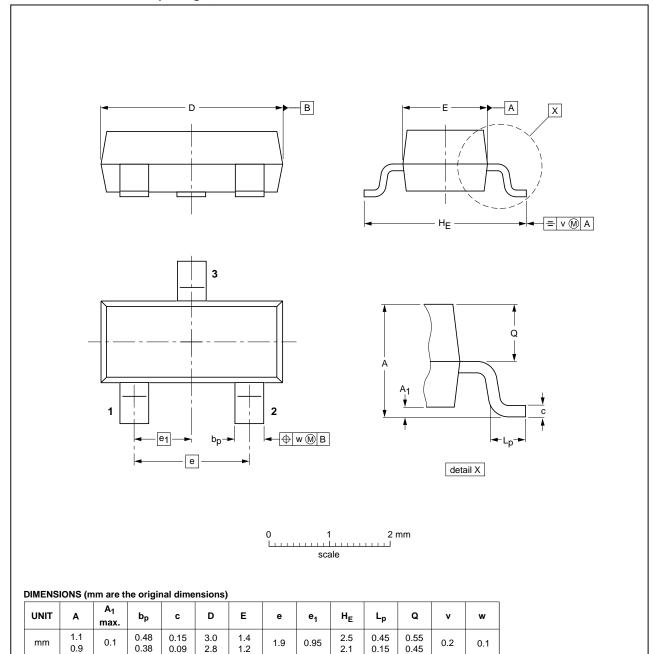
# Low-voltage variable capacitance double diode

**BB201** 

# **PACKAGE OUTLINE**

Plastic surface-mounted package; 3 leads

SOT23



OUTLINE	E REFERENCES			EUROPEAN	ISSUE DATE		
VERSION	IEC	JEDEC	JEITA		PROJECTION	ISSUE DATE	
SOT23		TO-236AB				<del>-04-11-04</del> 06-03-16	

2001 Oct 12 5

0.38

# 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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#### **Customer notification**

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## **Contact information**

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