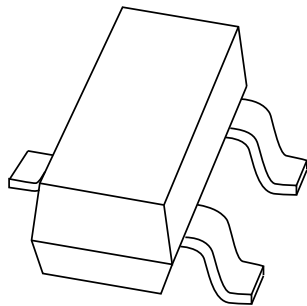


DATA SHEET



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

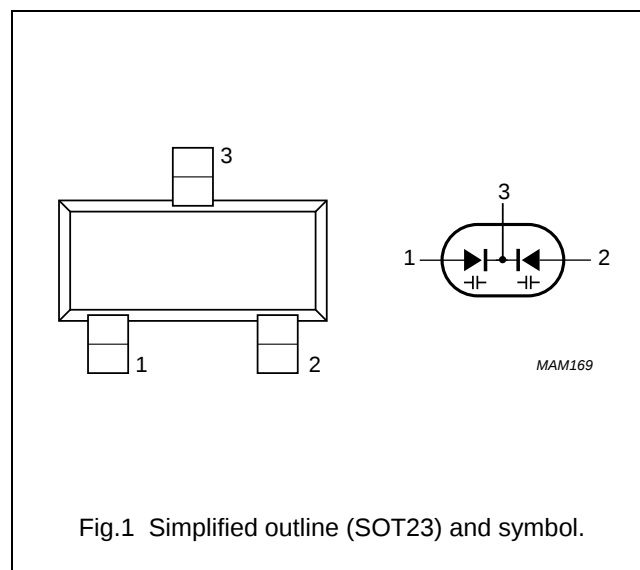
The BB201 is a variable capacitance double diode with a common cathode, fabricated in silicon planar technology and encapsulated in the SOT23 small plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE
BB201	SCp

PINNING

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



LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Per diode				
V _R	continuous reverse voltage	–	15	V
I _F	continuous forward current	–	20	mA
T _{stg}	storage temperature range	–55	+125	°C
T _j	operating junction temperature	–55	+125	°C

Low-voltage variable capacitance double diode

BB201

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode						
I_R	reverse current	$V_R = 15\text{ V}$	–	–	10	nA
		$V_R = 15\text{ V}; T_j = 85\text{ }^{\circ}\text{C}$	–	–	200	nA
r_S	diode series resistance	$f = 100\text{ MHz}; V_R = 3\text{ V}$	–	0.25	0.5	Ω
C_d	diode capacitance	$V_R = 1\text{ V}; f = 1\text{ MHz}$	89	95	102	pF
		$V_R = 3\text{ V}; f = 1\text{ MHz}$	–	60	–	pF
		$V_R = 7.5\text{ V}; f = 1\text{ MHz}$	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	$f = 1\text{ MHz}$	3.1	–	3.8	

GRAPHICAL DATA

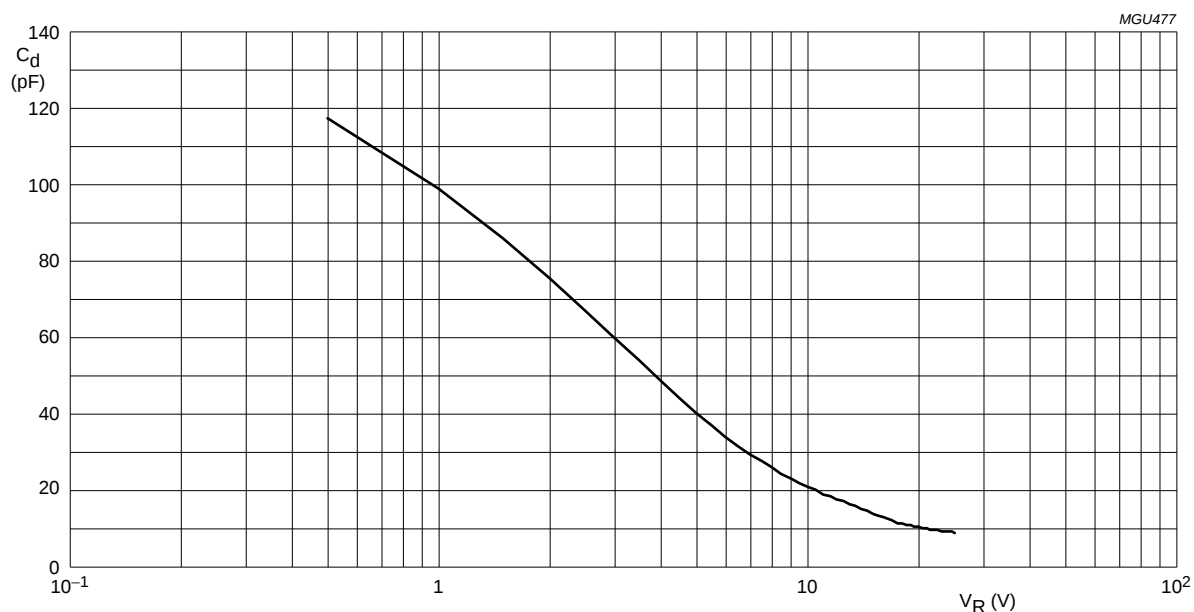


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

Low-voltage variable capacitance double diode

BB201

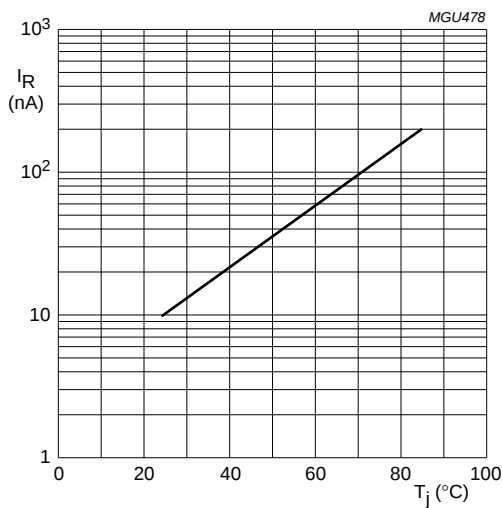


Fig.3 Reverse current as a function of junction temperature; maximum values.

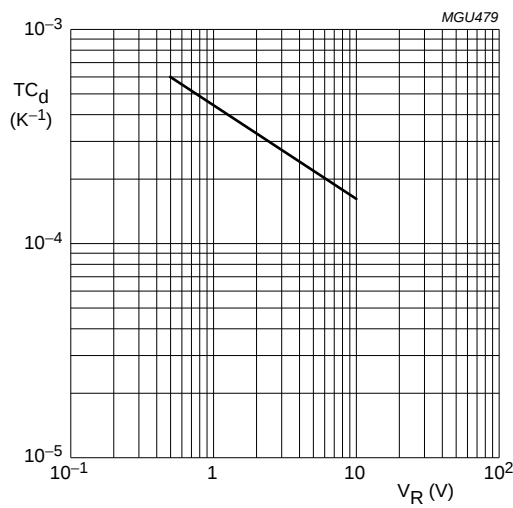


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

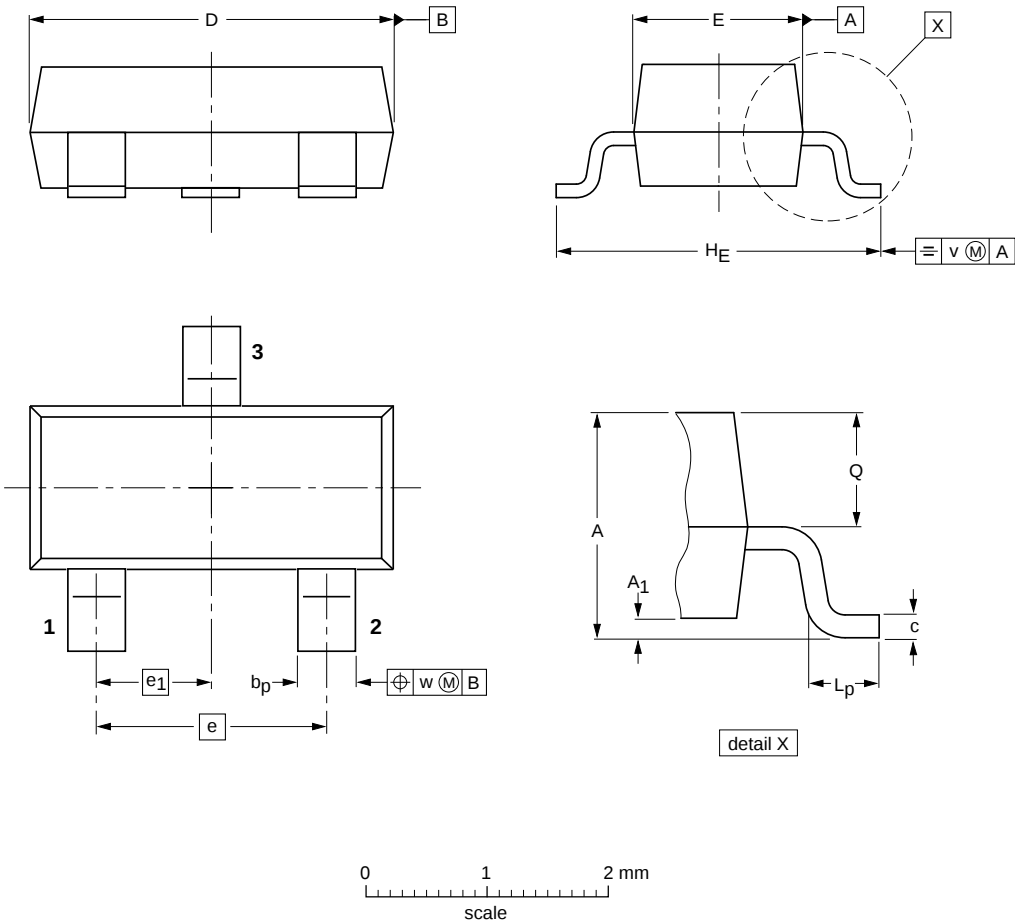
Low-voltage variable capacitance double diode

BB201

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

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

Low-voltage variable capacitance double diode

BB201

DATA SHEET STATUS

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	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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This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com