

BB202

Low-voltage variable capacitance diode

Rev. 02 — 3 January 2008 Product data sheet

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NXP Semiconductors

NXP founded by Philips

Low-voltage variable capacitance diode BB202

FEATURES

- Very steep C/V curve
- C0.2: 30.5 pF; C2.3: 9.5 pF
- C0.2 to C2.3 ratio: min. 2.5
- Very low series resistance
- Ultra small SMD plastic package.

APPLICATIONS

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

DESCRIPTION

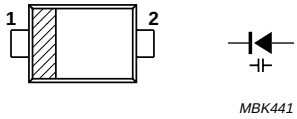
The BB202 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the SOD523 ultra small SMD plastic package.

MARKING

TYPE NUMBER	MARKING CODE
BB202	L2

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD523) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_R	continuous reverse voltage	–	6	V
I_F	continuous forward current	–	10	mA
T_{stg}	storage temperature	–55	+85	°C
T_j	operating junction temperature	–55	+85	°C

ELECTRICAL CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_R	reverse current	V_R = 6 V; see Fig.3	–	–	10	nA
		V_R = 6 V; T_j = 85 °C; see Fig 3	–	–	100	nA
r_s	diode series resistance	f = 100 MHz; C = 30 pF	–	0.35	0.6	Ω
C_d	diode capacitance	V_R = 0.2; f = 1 MHz; see Fig.2 and Fig.4	28.2	–	33.5	pF
		V_R = 2.3; f = 1 MHz; see Fig.2 and Fig.4	7.2	–	11.2	pF
$\frac{C_{d(0.2V)}}{C_{d(2.3V)}}$	capacitance ratio	f = 1 MHz	2.5	–	–	

GRAPHICAL DATA

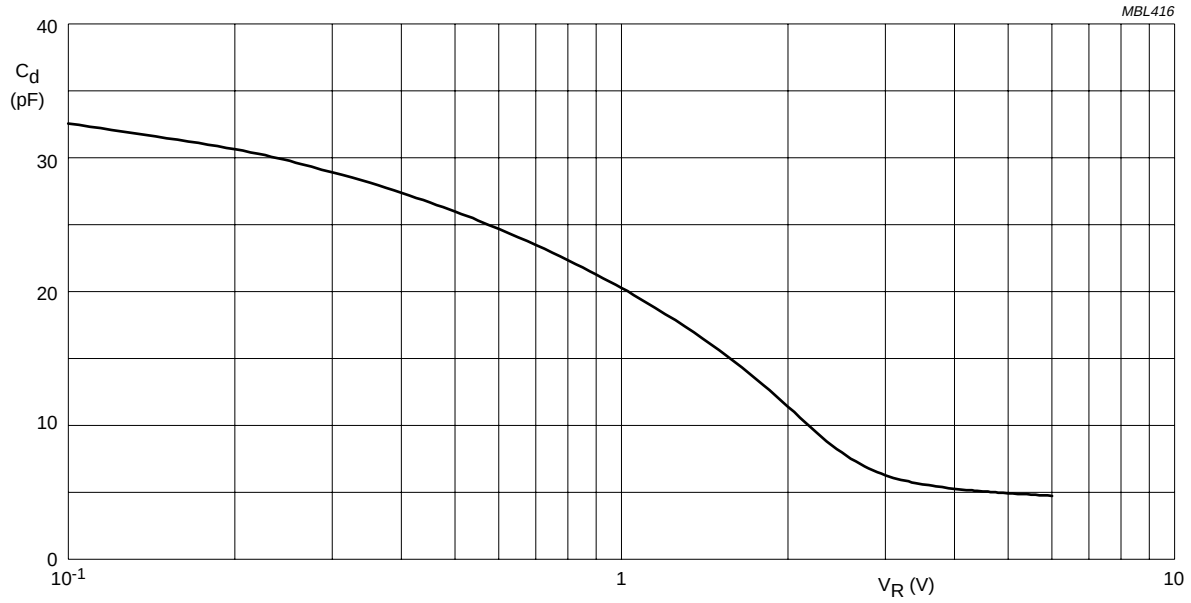


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

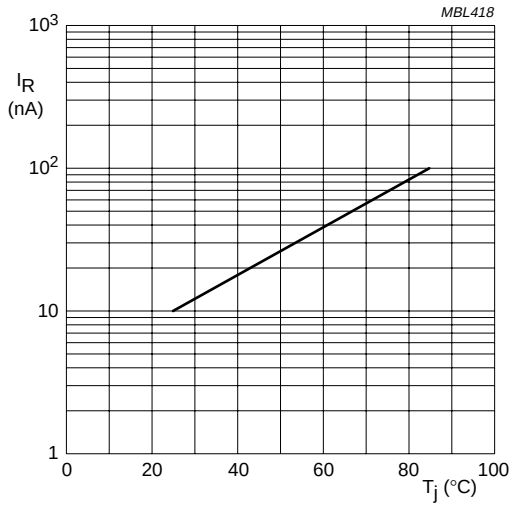


Fig.3 Reverse current as a function of junction temperature; maximum values.

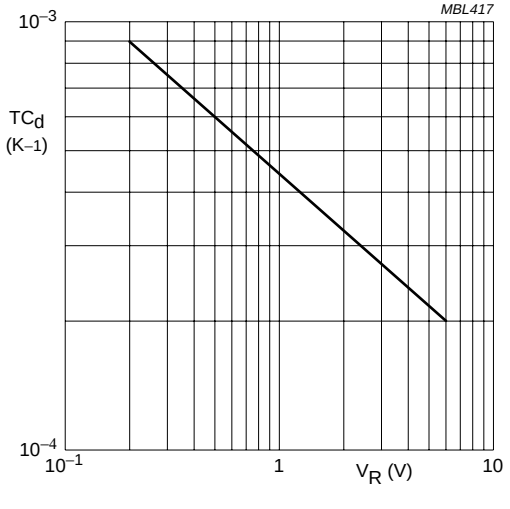
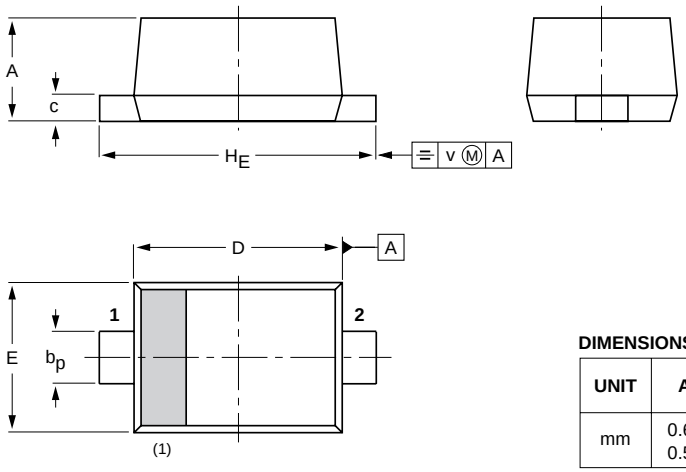


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads **SOD523**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD523			SC-79			~~02-12-13~~ 06-03-16

Legal information

Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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Revision history

Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BB202_N_2	20080103	Product data sheet	-	BB202_1
Modifications:	• Package outline drawing on page 4 changed			
BB202_1 (9397 750 09195)	20020218	Product specification	-	-

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