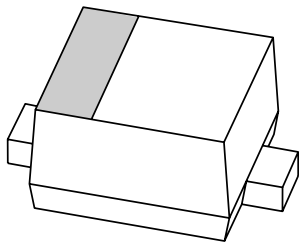


# DATA SHEET



## **BB202**

Low-voltage variable capacitance  
diode

Product specification

2002 Feb 18

# 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

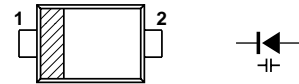
The BB202 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the SOD523 ultra small SMD plastic package.

## MARKING

TYPE NUMBER	MARKING CODE
BB202	L2

## PINNING

PIN	DESCRIPTION
1	cathode
2	anode



MBK441

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

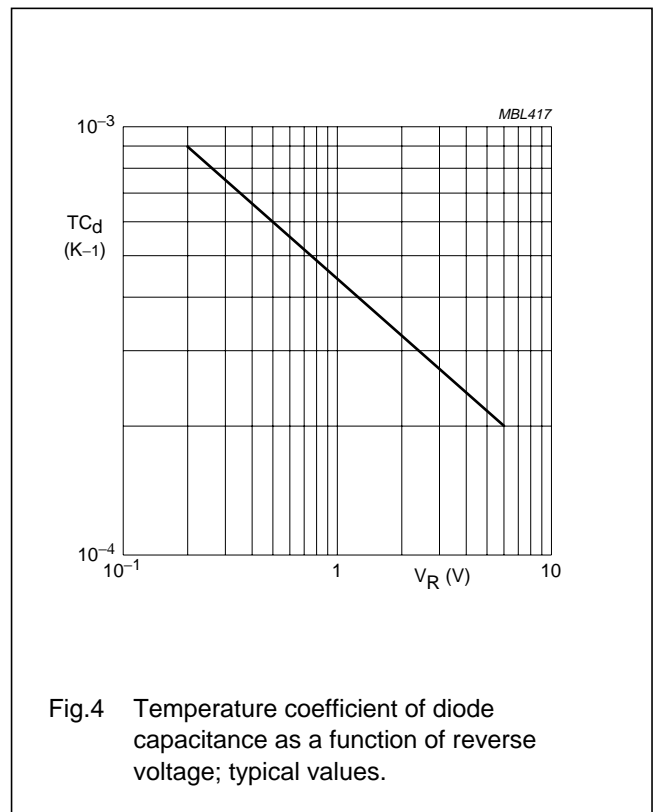
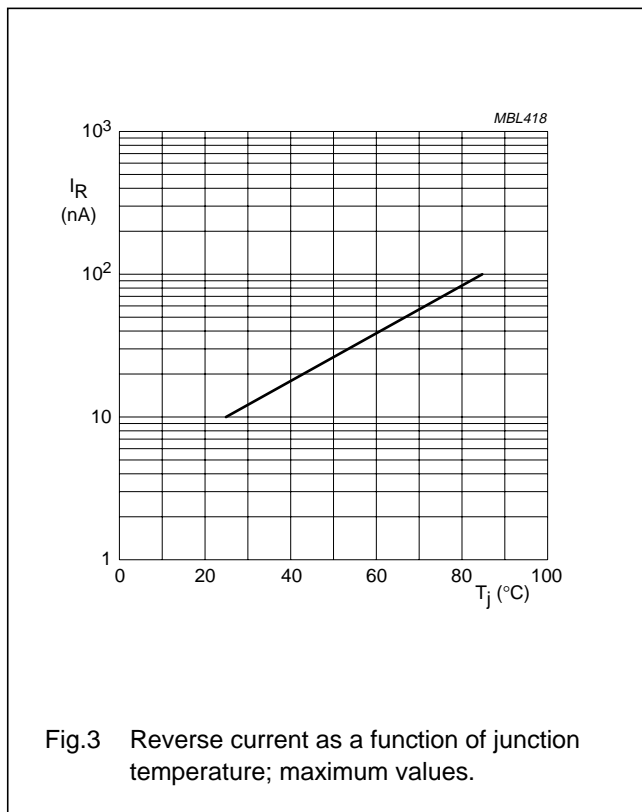
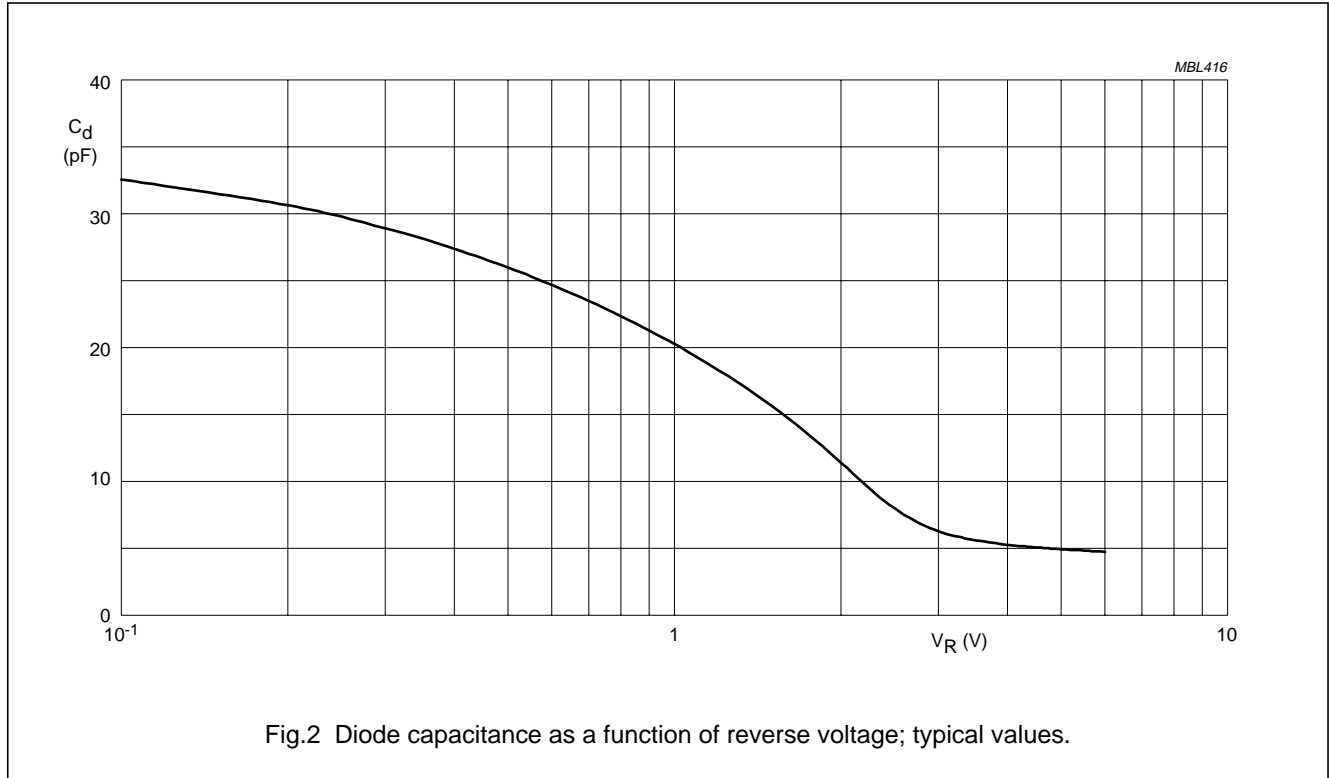
$T_j = 25\text{ °C}$  unless otherwise specified.

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

Low-voltage variable capacitance diode

BB202

GRAPHICAL DATA



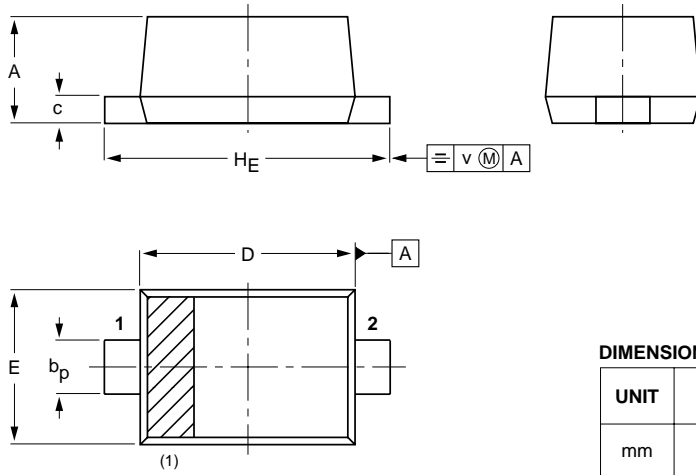
Low-voltage variable capacitance diode

BB202

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523



DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p</sub>	c	D	E	H <sub>E</sub>	v
mm	0.7 0.5	0.35 0.25	0.2 0.1	1.3 1.1	0.9 0.7	1.7 1.5	0.15

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD523			SC-79			98-11-25

## Low-voltage variable capacitance diode

BB202

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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.

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Low-voltage variable capacitance diode

BB202

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**NOTES**

Low-voltage variable capacitance diode

BB202

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**NOTES**

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