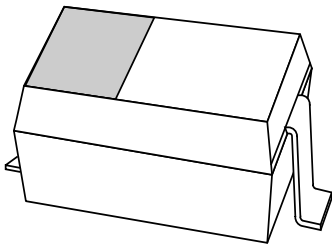


DATA SHEET



BB164

VHF variable capacitance diode

Product specification

1997 Dec 17

VHF variable capacitance diode

BB164

FEATURES

- High linearity
- Excellent matching to 2% DMA
- Very small plastic SMD package
- C28: 3.3 pF; ratio 21.

APPLICATIONS

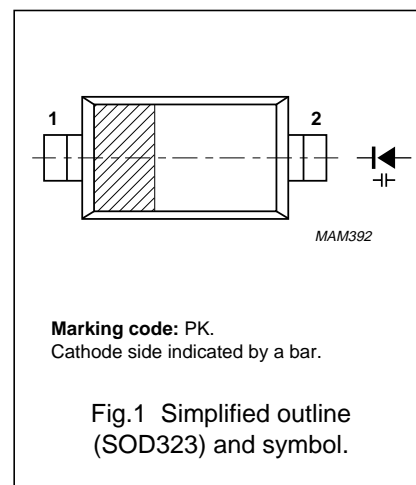
- Electronic tuning in VHF television tuners, band A up to 160 MHz
- Voltage controlled oscillators (VCO).

DESCRIPTION

The BB164 is a planar technology variable capacitance diode, in a SOD323 very small plastic SMD package. The excellent matching performance is achieved by gliding matching and a direct matching assembly procedure.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	30	V
V_{Rp}	peak reverse voltage	in series with a 10 k Ω resistor	–	35	V
I_F	continuous forward current		–	20	mA
T_{stg}	storage temperature		–55	+150	$^{\circ}$ C
T_j	operating junction temperature		–55	+125	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS

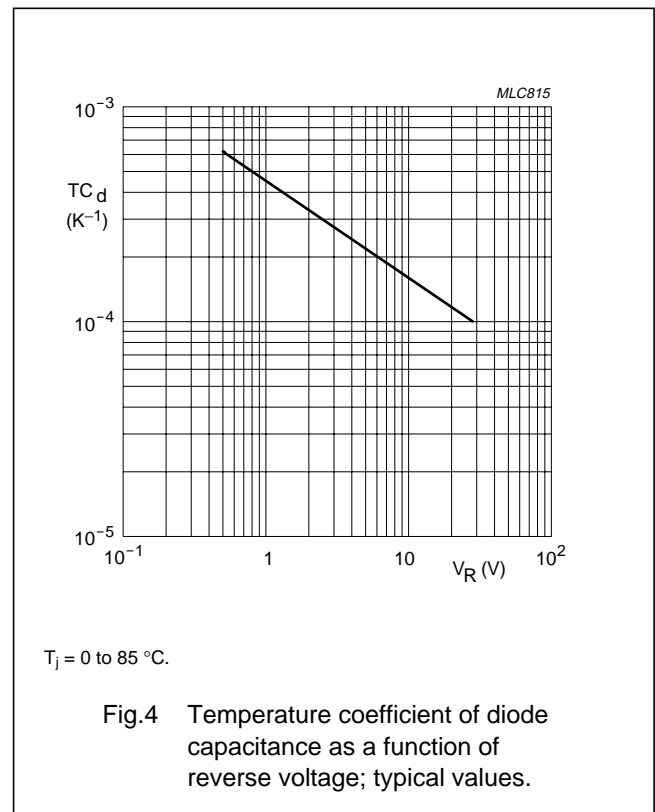
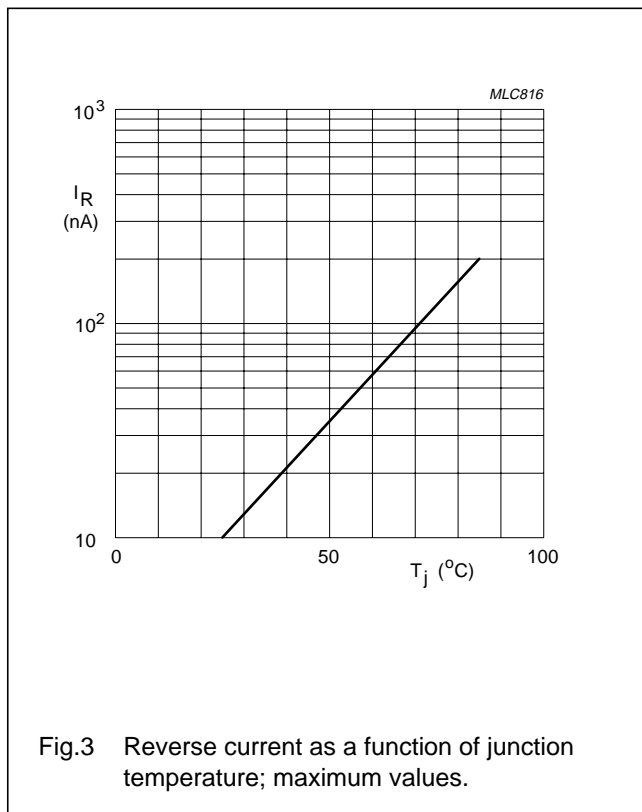
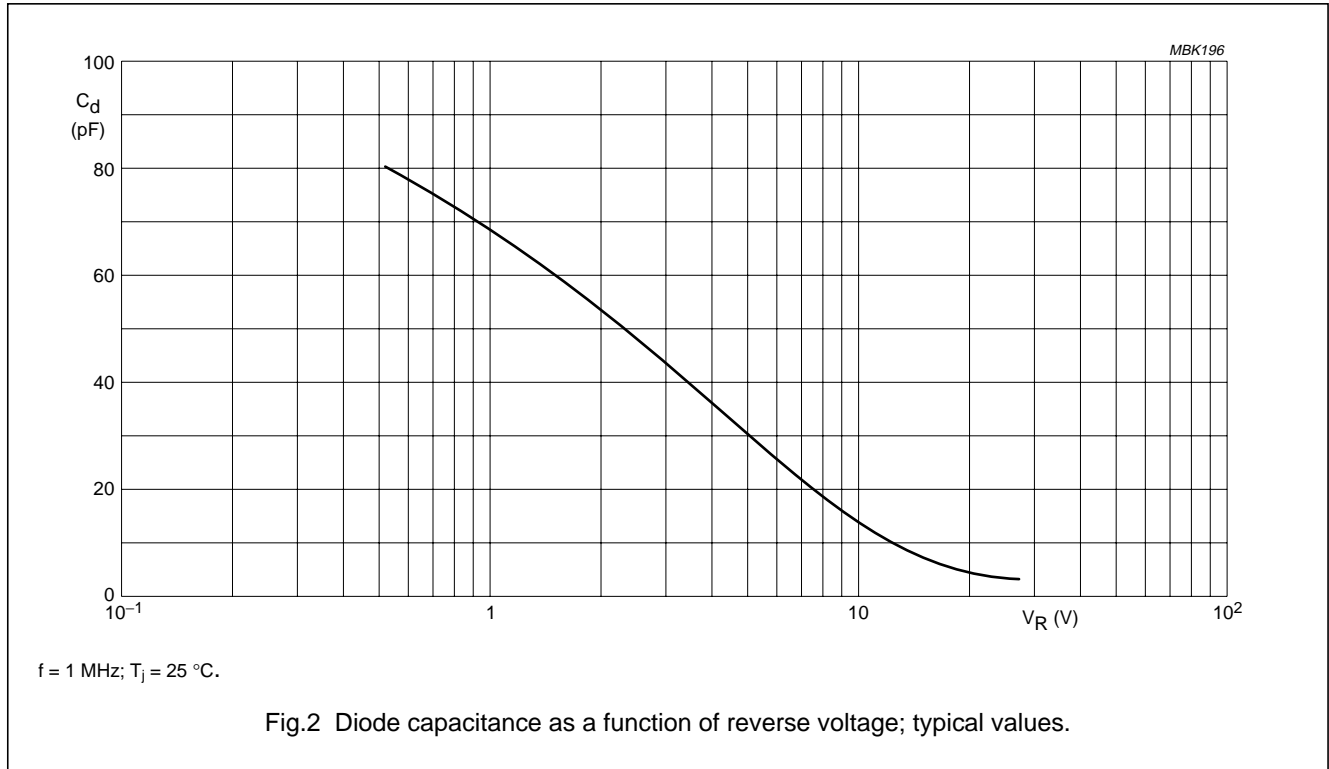
$T_j = 25^{\circ}$ C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	$V_R = 30$ V; see Fig.3	–	10	nA
		$V_R = 30$ V; $T_j = 85^{\circ}$ C; see Fig.3	–	200	nA
r_s	diode series resistance	$f = 100$ MHz; V_R is the value at which $C_d = 30$ pF	–	1.4	Ω
C_d	diode capacitance	$V_R = 1$ V; $f = 1$ MHz; see Figs 2 and 4	62	76	pF
		$V_R = 28$ V; $f = 1$ MHz; see Figs 2 and 4	2.9	3.4	pF
$\frac{C_{d(1V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1$ MHz	19.5	25	
$\frac{\Delta C_d}{C_d}$	capacitance matching	$V_R = 1$ to 28 V; in a sequence of 15 diodes (gliding)	–	2	%

VHF variable capacitance diode

BB164

GRAPHICAL DATA



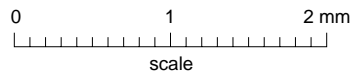
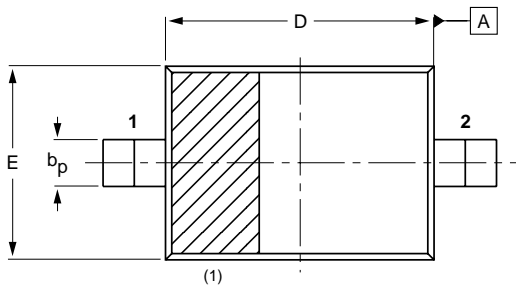
VHF variable capacitance diode

BB164

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	H _E	L _p	Q	v
mm	1.1 0.8	+0.05 -0.05	0.40 0.25	0.25 0.10	1.8 1.6	1.35 1.15	2.7 2.3	0.45 0.15	0.25 0.15	0.2

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ		
SOD323					98-09-14

VHF variable capacitance diode

BB164

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

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VHF variable capacitance diode

BB164

NOTES

VHF variable capacitance diode

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Philips Semiconductors – a worldwide company

Argentina: see South America

Australia: 34 Waterloo Road, NORTH RYDE, NSW 2113,
Tel. +61 2 9805 4455, Fax. +61 2 9805 4466

Austria: Computerstr. 6, A-1101 WIEN, P.O. Box 213, Tel. +43 160 1010,
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Belarus: Hotel Minsk Business Center, Bld. 3, r. 1211, Volodarski Str. 6,
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Bulgaria: Philips Bulgaria Ltd., Energoproject, 15th floor,
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Canada: PHILIPS SEMICONDUCTORS/COMPONENTS,
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China/Hong Kong: 501 Hong Kong Industrial Technology Centre,
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Colombia: see South America

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Denmark: Prags Boulevard 80, PB 1919, DK-2300 COPENHAGEN S,
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Finland: Sinikalliontie 3, FIN-02630 ESPOO,
Tel. +358 9 615800, Fax. +358 9 61580920

France: 51 Rue Carnot, BP317, 92156 SURESNES Cedex,
Tel. +33 1 40 99 6161, Fax. +33 1 40 99 6427

Germany: Hammerbrookstraße 69, D-20097 HAMBURG,
Tel. +49 40 23 53 60, Fax. +49 40 23 536 300

Greece: No. 15, 25th March Street, GR 17778 TAVROS/ATHENS,
Tel. +30 1 4894 339/239, Fax. +30 1 4814 240

Hungary: see Austria

India: Philips INDIA Ltd, Band Box Building, 2nd floor,
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Tel. +91 22 493 8541, Fax. +91 22 493 0966

Indonesia: see Singapore

Ireland: Newstead, Clonskeagh, DUBLIN 14,
Tel. +353 1 7640 000, Fax. +353 1 7640 200

Israel: RAPAC Electronics, 7 Kehilat Saloniki St, PO Box 18053,
TEL AVIV 61180, Tel. +972 3 645 0444, Fax. +972 3 649 1007

Italy: PHILIPS SEMICONDUCTORS, Piazza IV Novembre 3,
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Japan: Philips Bldg 13-37, Kohnan 2-chome, Minato-ku, TOKYO 108,
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Korea: Philips House, 260-199 Itaewon-dong, Yongsan-ku, SEOUL,
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Malaysia: No. 76 Jalan Universiti, 46200 PETALING JAYA, SELANGOR,
Tel. +60 3 750 5214, Fax. +60 3 757 4880

Mexico: 5900 Gateway East, Suite 200, EL PASO, TEXAS 79905,
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Middle East: see Italy

Netherlands: Postbus 90050, 5600 PB EINDHOVEN, Bldg. VB,
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Philippines: Philips Semiconductors Philippines Inc.,
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Metro MANILA, Tel. +63 2 816 6380, Fax. +63 2 817 3474

Poland: Ul. Lukiska 10, PL 04-123 WARSZAWA,
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Portugal: see Spain

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Russia: Philips Russia, Ul. Usatcheva 35A, 119048 MOSCOW,
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South Africa: S.A. PHILIPS Pty Ltd., 195-215 Main Road Martindale,
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Tel. +55 11 821 2333, Fax. +55 11 821 2382

Spain: Balmes 22, 08007 BARCELONA,
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Sweden: Kottbygatan 7, Akalla, S-16485 STOCKHOLM,
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United Kingdom: Philips Semiconductors Ltd., 276 Bath Road, Hayes,
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Tel. +1 800 234 7381

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Tel. +381 11 625 344, Fax. +381 11 635 777

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