

# DATA SHEET



**BB156**

Low-voltage variable capacitance  
diode

Product specification  
Supersedes data of 1998 Aug 17

2004 Mar 01

# Low-voltage variable capacitance diode

BB156

## FEATURES

- Excellent linearity
- Very small plastic SMD package
- C7.5: 4.8 pF; ratio 3.3
- Very low series resistance.

## APPLICATIONS

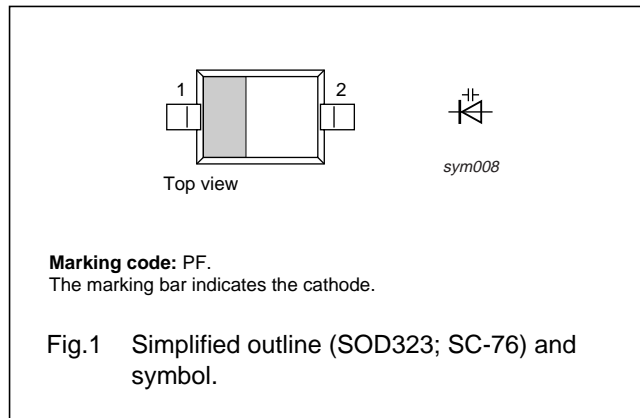
- Voltage controlled oscillators (VCO).

## DESCRIPTION

The BB156 is a planar technology variable capacitance diode, in a SOD323 very small plastic SMD package.

## PINNING

PIN	DESCRIPTION
1	cathode
2	anode



## ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BB156	–	plastic surface mounted package; 2 leads	SOD323

## LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage	–	10	V
$I_F$	continuous forward current	–	20	mA
$T_{stg}$	storage temperature	–55	+150	°C
$T_j$	operating junction temperature	–55	+125	°C

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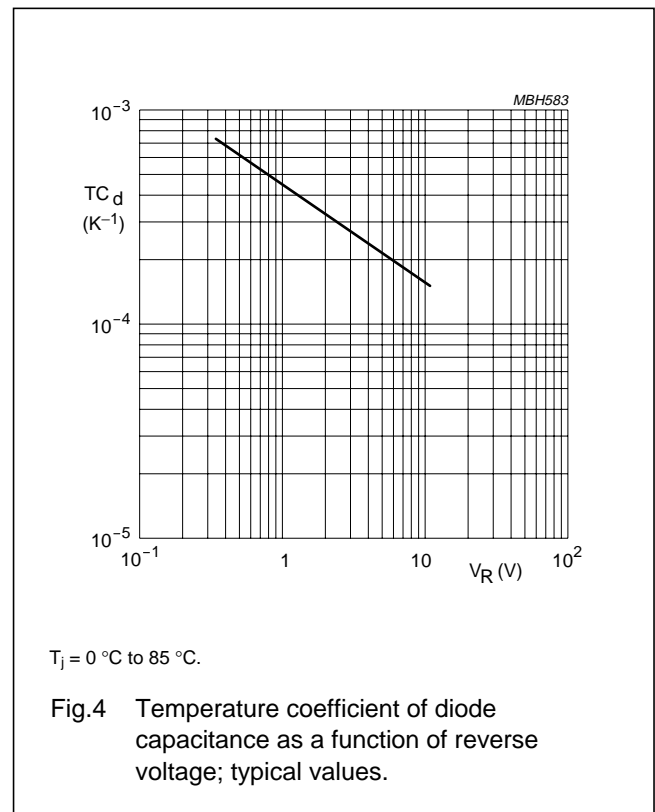
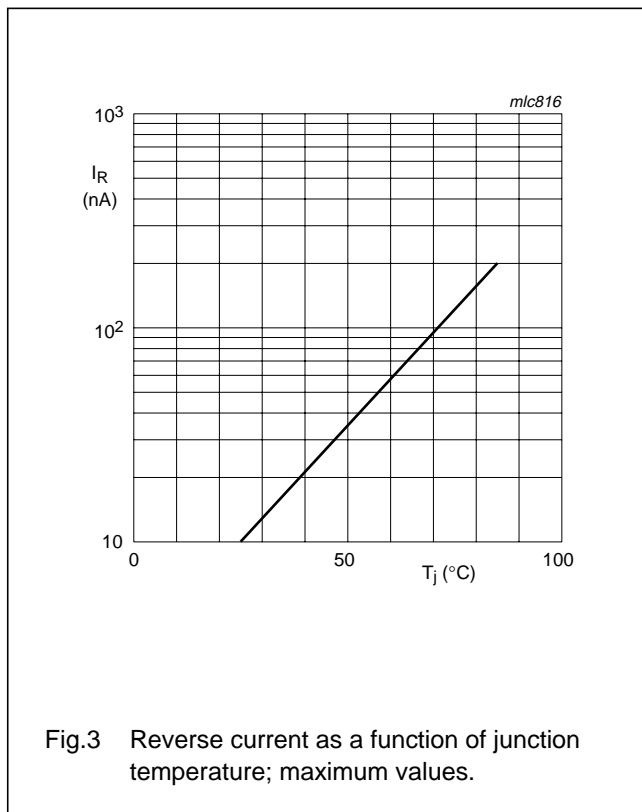
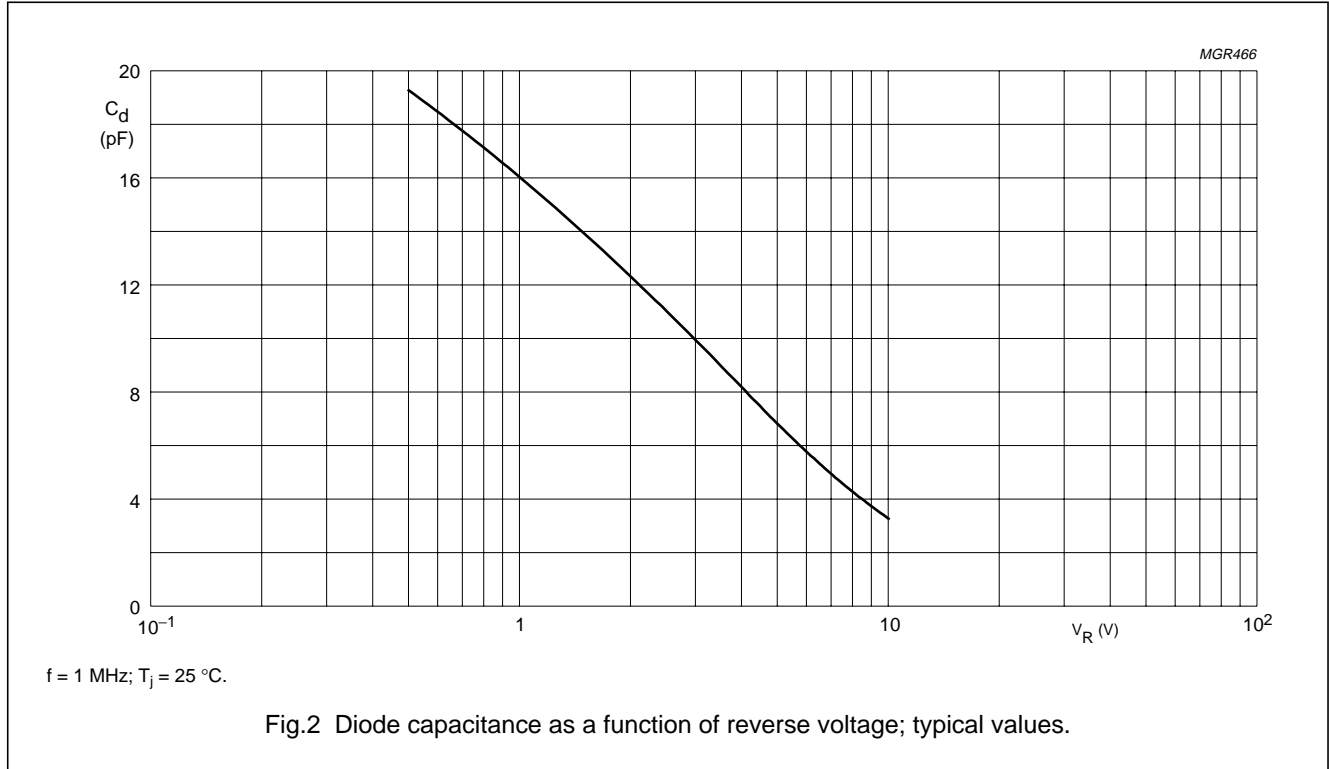
**ELECTRICAL CHARACTERISTICS** $T_j = 25\text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_R$	reverse current	$V_R = 10\text{ V}$ ; see Fig.3	–	–	10	nA
		$V_R = 10\text{ V}$ ; $T_j = 85\text{ °C}$ ; see Fig.3	–	–	200	nA
$r_s$	diode series resistance	$f = 470\text{ MHz}$ ; $C_d = 9\text{ pF}$	–	0.4	0.7	$\Omega$
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; see Figs 2 and 4				
		$V_R = 1\text{ V}$	14.4	16	17.6	pF
		$V_R = 4\text{ V}$	7.6	8.6	9.6	pF
		$V_R = 7.5\text{ V}$	4.2	4.8	5.4	pF
$\frac{C_{d(1\text{ V})}}{C_{d(7.5\text{ V})}}$	capacitance ratio	$f = 1\text{ MHz}$	2.7	3.3	3.9	

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GRAPHICAL DATA



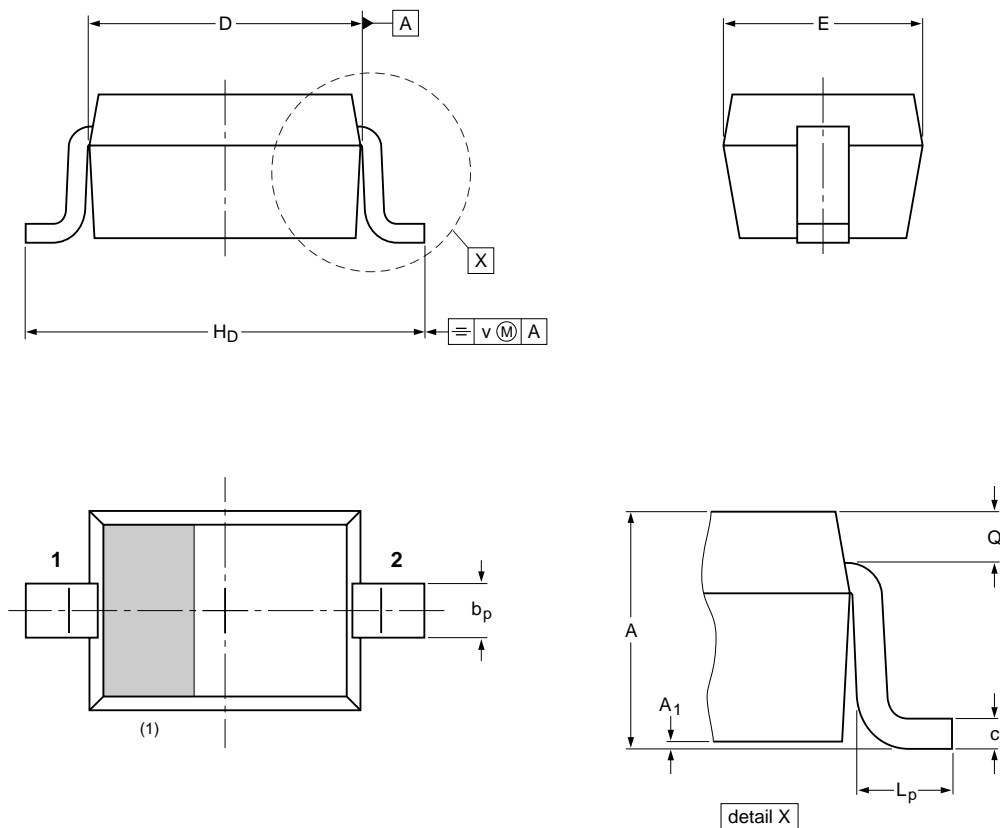
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	H <sub>D</sub>	L <sub>p</sub>	Q	v
mm	1.1 0.8	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	JEITA		
SOD323			SC-76		-99-09-13- 03-12-17

## Low-voltage variable capacitance diode

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## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	DEFINITION
I	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.
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3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

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## **Contact information**

For additional information please visit <http://www.semiconductors.philips.com>. Fax: +31 40 27 24825

For sales offices addresses send e-mail to: [sales.addresses@www.semiconductors.philips.com](mailto:sales.addresses@www.semiconductors.philips.com).

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