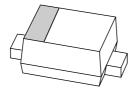
DISCRETE SEMICONDUCTORS

DATA SHEET



BB145B-01Low-voltage variable capacitance diode

Product specification Supersedes data of 2002 Nov 18 2004 Mar 29





Low-voltage variable capacitance diode

BB145B-01

FEATURES

- Ultra small plastic SMD package
- C4: 2.75 pF; ratio: 2.4
- · Low series resistance.

APPLICATIONS

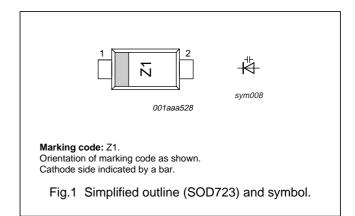
• Voltage controlled oscillators (VCO).

DESCRIPTION

The BB145B-01 is a planar technology variable capacitance diode in a SOD723 package.

PINNING

PIN	DESCRIPTION	
1	cathode	
2	anode	



ORDERING INFORMATION

TYPE		PACKAGE		
NUMBER	NAME	DESCRIPTION	VERSION	
BB145B-01 –		plastic surface mounted package; 2 leads	SOD723	

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		_	6	V
V_{RM}	peak reverse voltage	in series with a 10 kΩ resistor	_	8	V
I _F	continuous forward current		_	20	mA
T _{stg}	storage temperature		- 55	+150	°C
Tj	operating junction temperature		-55	+150	°C

ELECTRICAL CHARACTERISTICS

 $T_i = 25$ °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	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	_	200	nA
r _s	diode series resistance	f = 470 MHz; V _R = 1 V	_	0.6	Ω
C _d	diode capacitance	V _R = 1 V; f = 1 MHz; see Figs 2 and 4	6.4	7.2	pF
		$V_R = 4 \text{ V}$; f = 1 MHz; see Figs 2 and 4	2.55	2.95	pF
C _{d(1V)}	capacitance ratio	f = 1 MHz	2.2	_	
$\frac{C_{d(1V)}}{C_{d(4V)}}$					

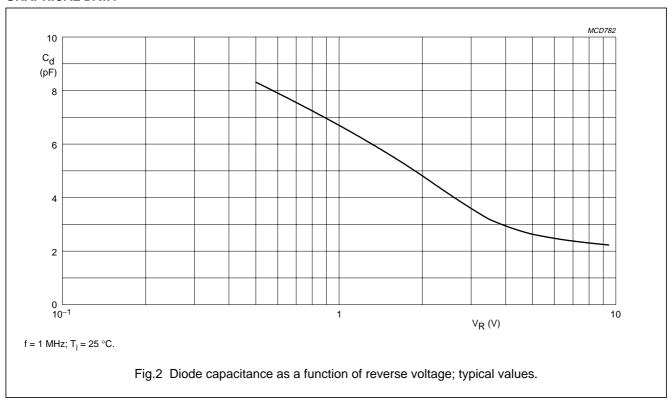
2004 Mar 29 2

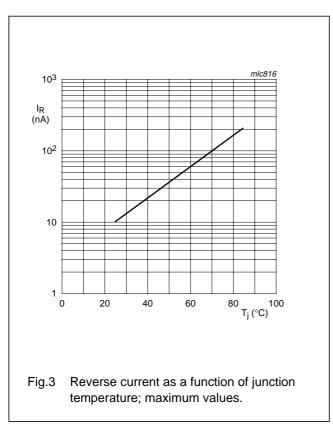
Philips Semiconductors Product specification

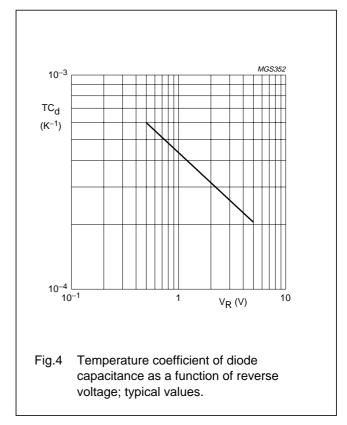
Low-voltage variable capacitance diode

BB145B-01

GRAPHICAL DATA







2004 Mar 29 3

Product specification Philips Semiconductors

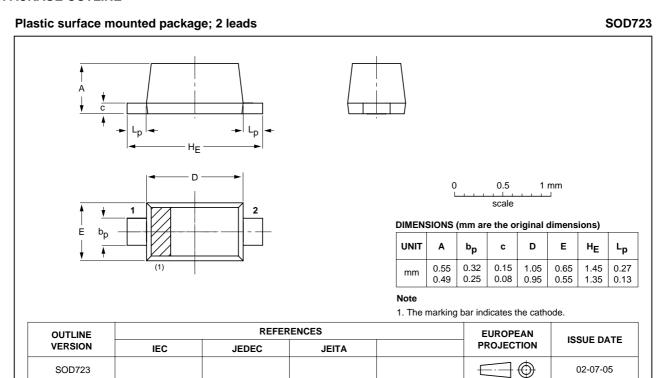
Low-voltage variable capacitance diode

BB145B-01

02-07-05

PACKAGE OUTLINE

SOD723



2004 Mar 29 4 Philips Semiconductors Product specification

Low-voltage variable capacitance diode

BB145B-01

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS(2)(3)	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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III	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. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

Notes

- 1. Please consult the most recently issued data sheet before initiating or completing a design.
- 2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL http://www.semiconductors.philips.com.
- 3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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2004 Mar 29 5

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