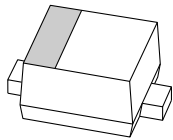


DATA SHEET



BB145B

Low-voltage variable capacitance
diode

Product specification
Supersedes data of 2002 Nov 18

2004 Mar 29



Low-voltage variable capacitance diode

BB145B

FEATURES

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

APPLICATIONS

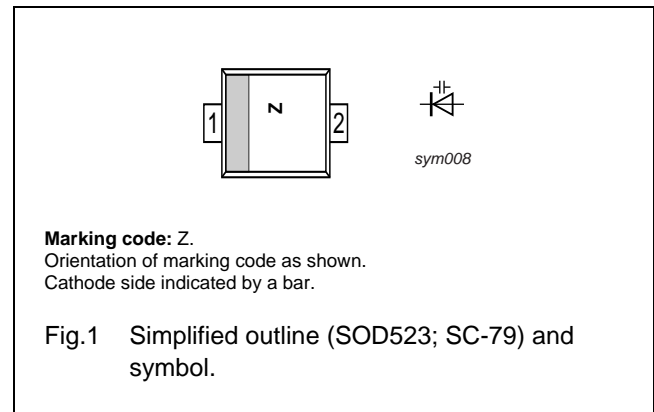
- Voltage controlled oscillators (VCO).

DESCRIPTION

The BB145B is a planar technology variable capacitance diode in a SOD523 (SC-79) package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BB145B	–	plastic surface mounted package; 2 leads	SOD523

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 k Ω resistor	–	8	V
I_F	continuous forward current		–	20	mA
T_{stg}	storage temperature		–55	+150	$^{\circ}$ C
T_j	operating junction temperature		–55	+150	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS

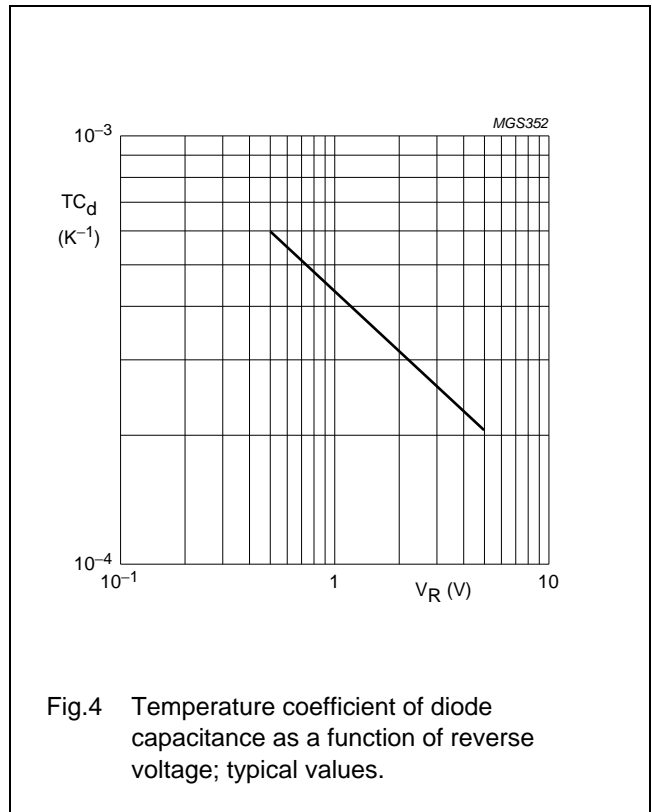
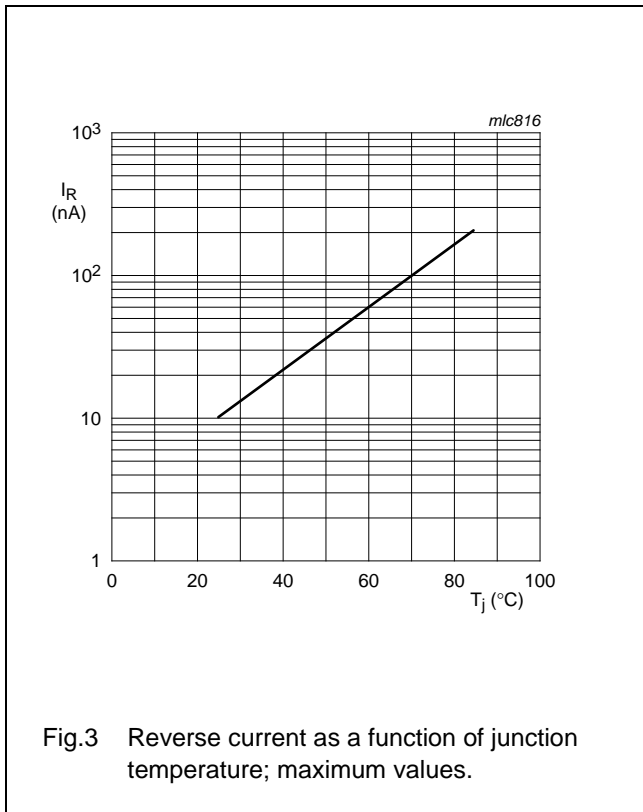
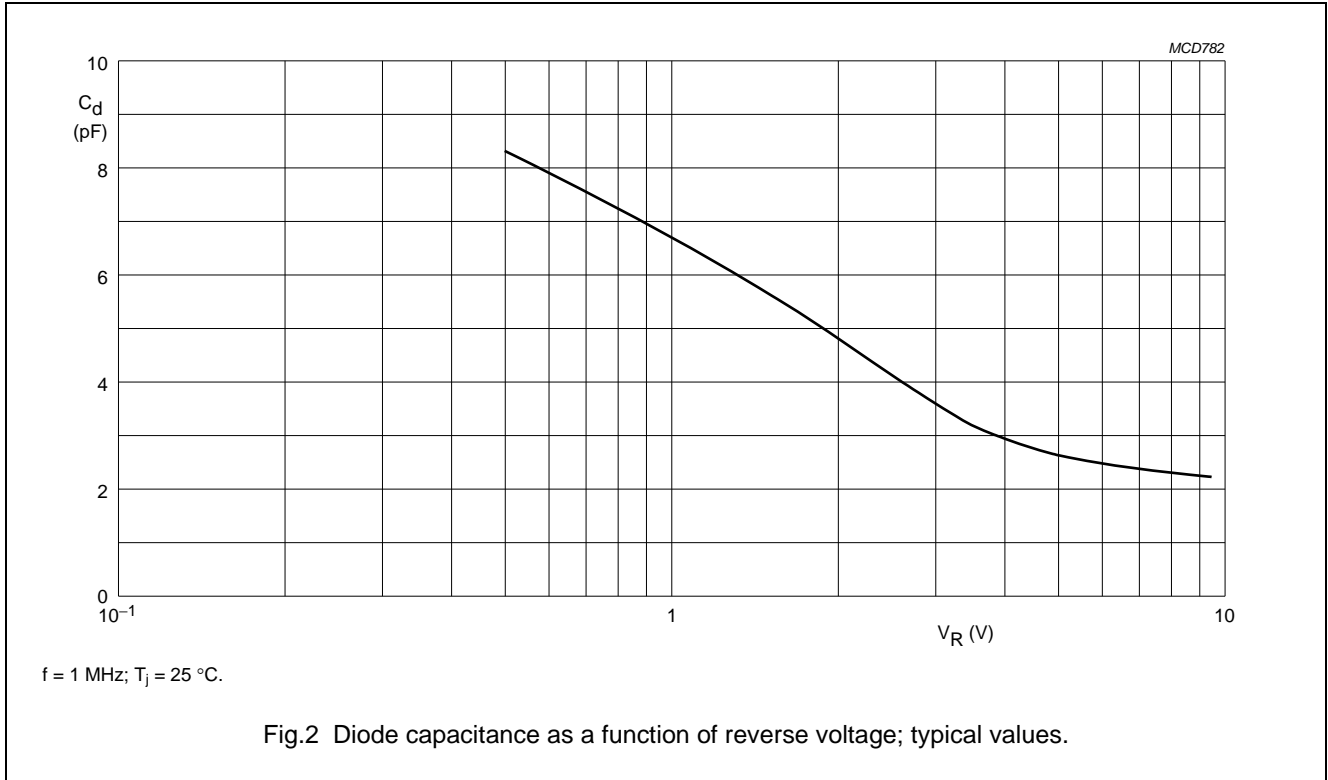
$T_j = 25\text{ }^{\circ}$ C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	$V_R = 6\text{ V}$; see Fig.3	–	10	nA
		$V_R = 6\text{ V}$; $T_j = 85\text{ }^{\circ}$ C; see Fig.3	–	200	nA
r_s	diode series resistance	$f = 470\text{ MHz}$; $V_R = 1\text{ V}$	–	0.6	Ω
C_d	diode capacitance	$V_R = 1\text{ V}$; $f = 1\text{ MHz}$; see Figs 2 and 4	6.4	7.2	pF
		$V_R = 4\text{ V}$; $f = 1\text{ MHz}$; see Figs 2 and 4	2.55	2.95	pF
$\frac{C_{d(1V)}}{C_{d(4V)}}$	capacitance ratio	$f = 1\text{ MHz}$	2.2	–	

Low-voltage variable capacitance diode

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GRAPHICAL DATA



Low-voltage variable capacitance diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD523

DIMENSIONS (mm are the original dimensions)

UNIT	A	bp	c	D	E	HE	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

Low-voltage variable capacitance diode

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DATA SHEET STATUS

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

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Low-voltage variable capacitance diode

BB145B

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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