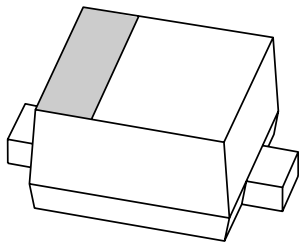


DATA SHEET



BB145C

Low-voltage variable capacitance diode

Preliminary specification

2001 Dec 11

Low-voltage variable capacitance diode

BB145C

FEATURES

- Ultra small plastic SMD package
- Very low capacitance spread
- High capacitance ratio
- C1 to C4 ratio: min. 2.39, max. 2.53.

APPLICATIONS

Voltage Controlled Oscillators (VCO).

DESCRIPTION

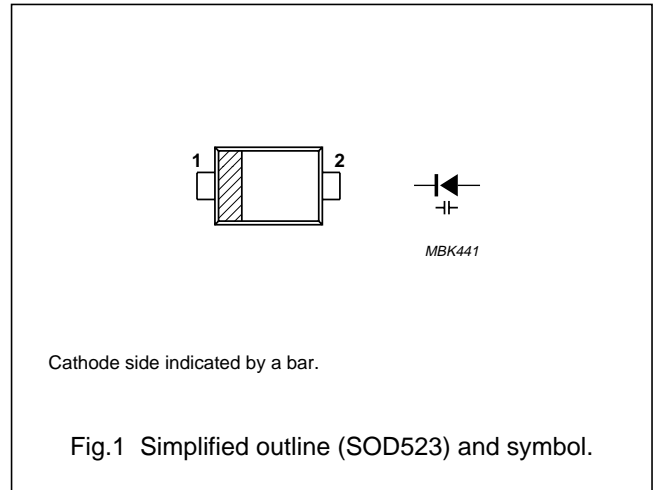
The BB145C is a variable capacitance diode, fabricated in planar technology and encapsulated in the SOD523 ultra small plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE
BB145C	K3

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	10	V
V_{RM}	peak reverse voltage	in series with a 10 k Ω resistor	–	12	V
I_F	continuous forward current		–	20	mA
T_{stg}	storage temperature		–55	+150	°C
T_j	operating junction temperature		–55	+150	°C

CHARACTERISTICS

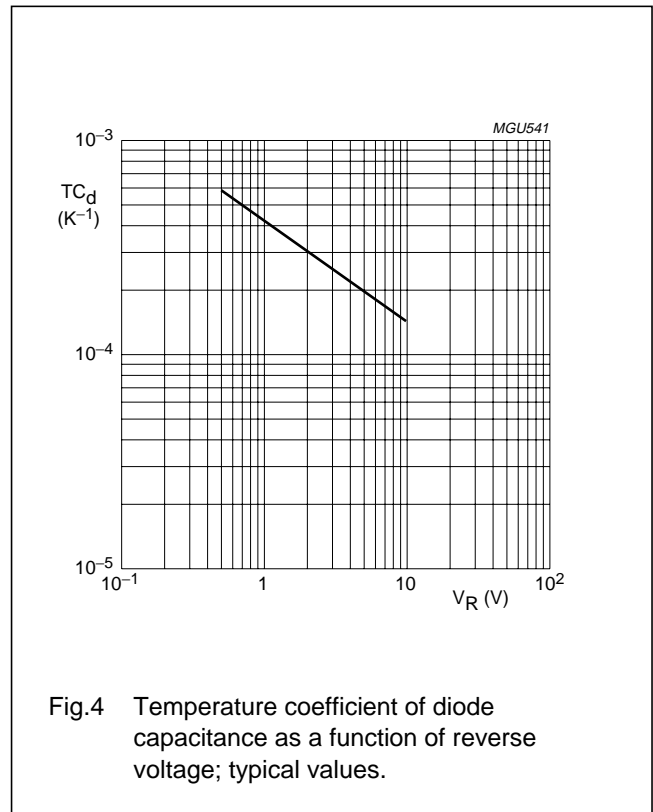
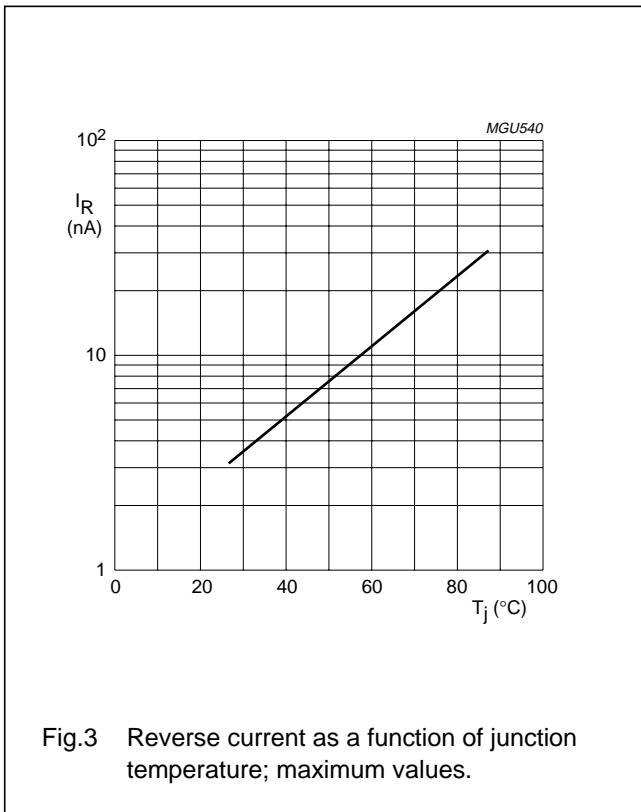
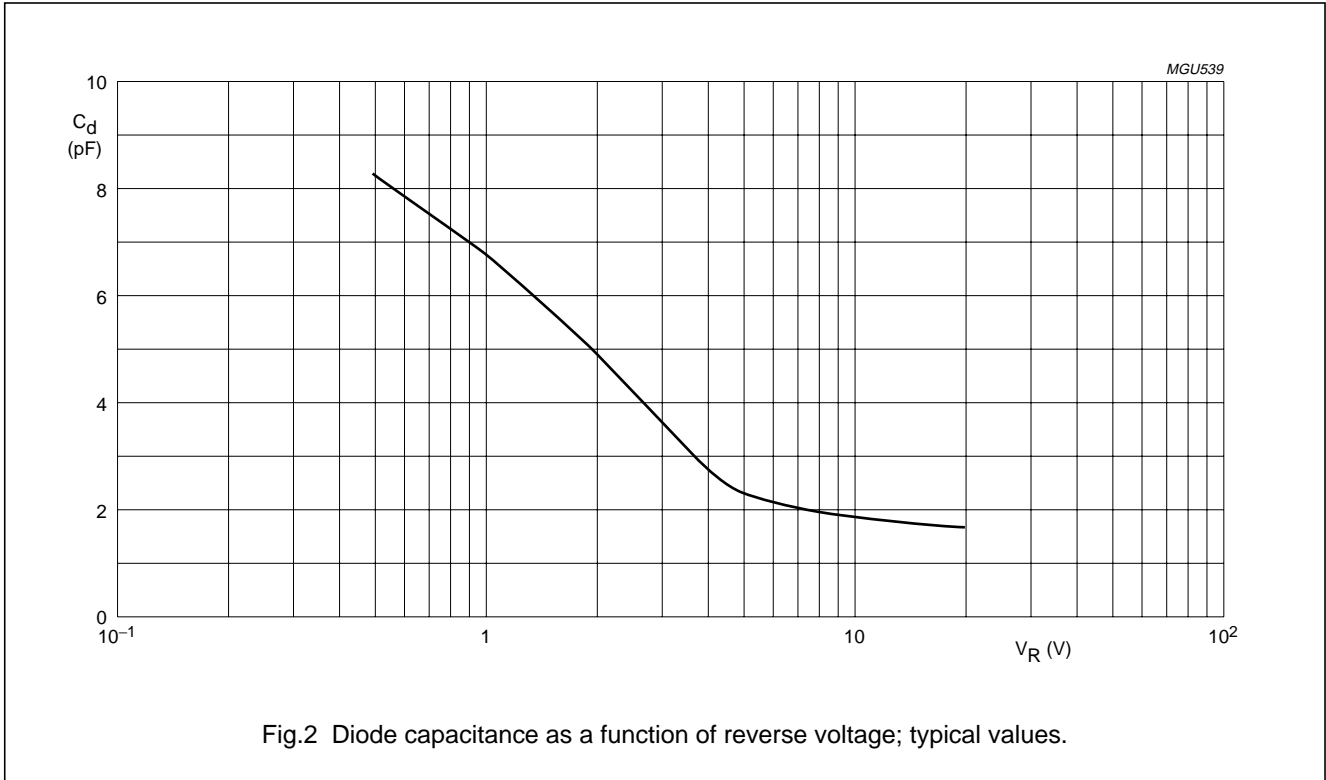
$T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	$V_R = 15\text{ V}$; see Fig.3	–	3	nA
		$V_R = 15\text{ V}$; $T_j = 85\text{ }^\circ\text{C}$	–	30	nA
r_s	diode series resistance	$V_R = 1\text{ V}$; $f = 470\text{ MHz}$	–	0.6	Ω
C_d	diode capacitance	$V_R = 1\text{ V}$; $f = 1\text{ MHz}$	6.4	7.2	pF
		$V_R = 4\text{ V}$; $f = 1\text{ MHz}$	2.55	2.85	pF
$\frac{C_{d(1V)}}{C_{d(4V)}}$	capacitance ratio	$f = 1\text{ MHz}$	2.39	2.53	

Low-voltage variable capacitance diode

BB145C

GRAPHICAL DATA



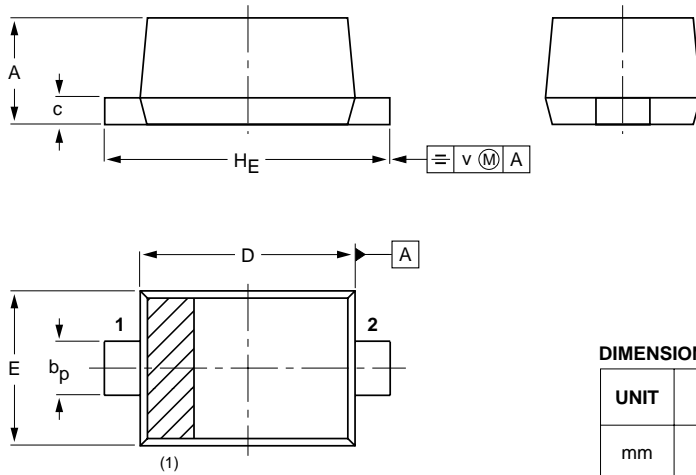
Low-voltage variable capacitance diode

BB145C

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523



DIMENSIONS (mm are the original dimensions)

UNIT	A	b _p	c	D	E	H _E	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

BB145C

DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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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

BB145C

NOTES

Low-voltage variable capacitance diode

BB145C

NOTES

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