

DATA SHEET



BB147

VHF variable capacitance diode

Product specification
Supersedes data of 1996 Sep 20

2004 Mar 30

VHF variable capacitance diode

BB147

FEATURES

- Ultra high ratio
- Excellent matching to 2% DMA (Direct Matching Assembly)
- Very small plastic SMD package
- C28: 2.6 pF; ratio 40.

APPLICATIONS

- Electronic tuning in television tuners with extended VHF range
- Voltage controlled oscillators (VCO).

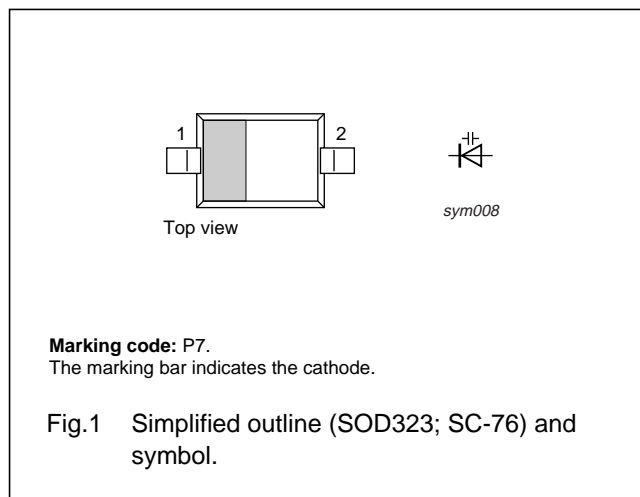
DESCRIPTION

The BB147 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the 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



ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BB147	–	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	–	30	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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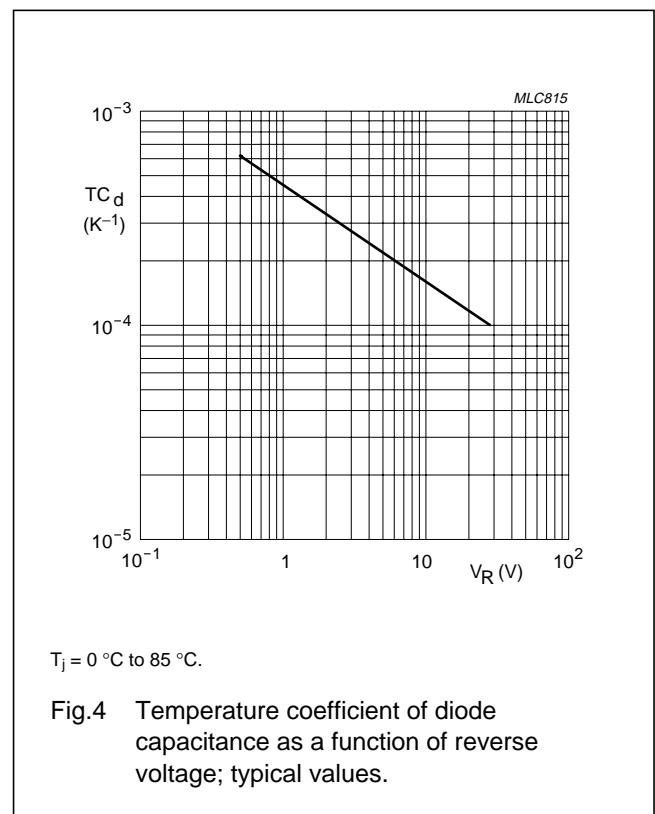
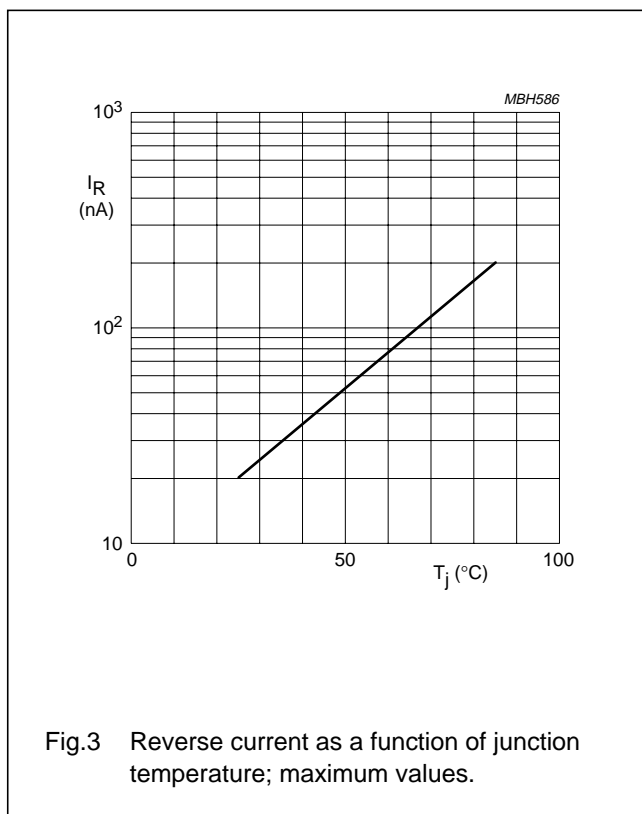
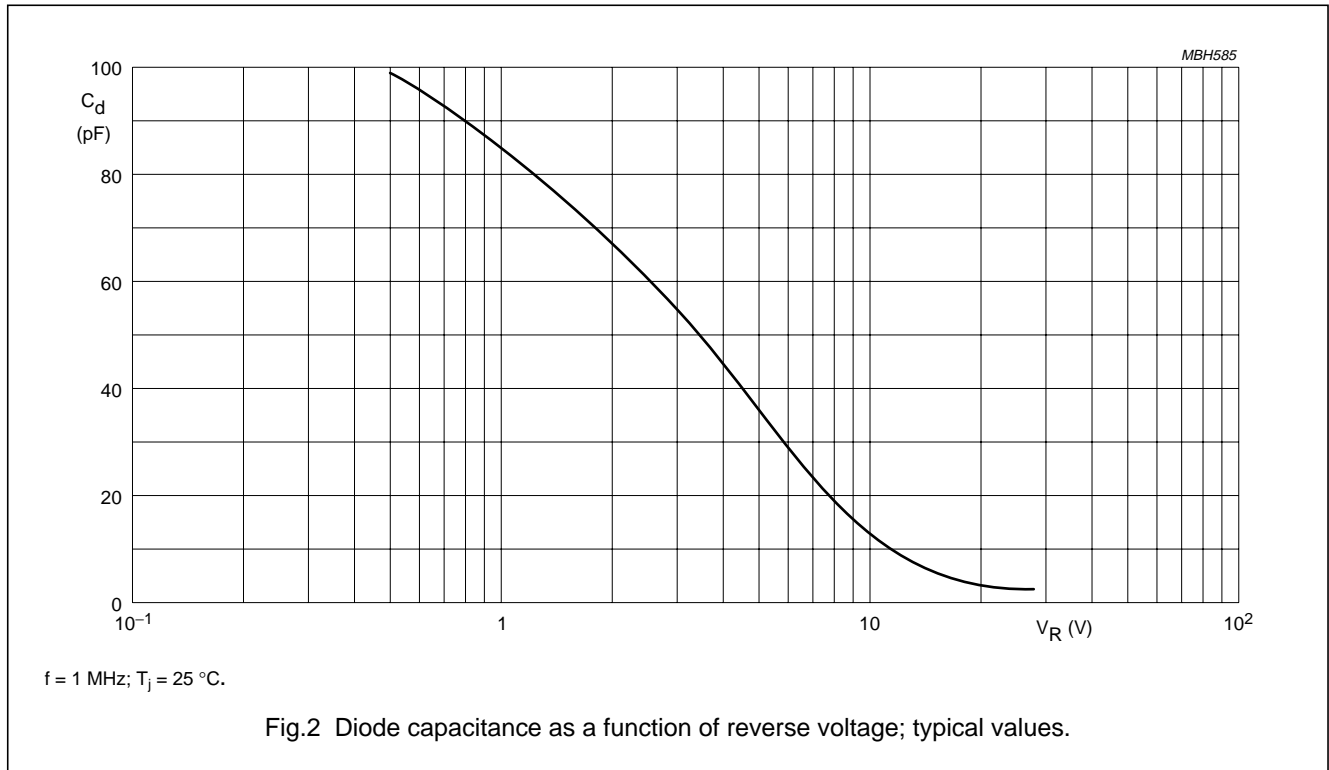
ELECTRICAL CHARACTERISTICS $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	$V_R = 30\text{ V}$; see Fig.3	–	20	nA
		$V_R = 30\text{ V}$; $T_j = 85\text{ }^\circ\text{C}$; see Fig.3	–	200	nA
r_s	diode series resistance	$f = 100\text{ MHz}$; $C_d = 30\text{ pF}$	–	2.8	Ω
C_d	diode capacitance	$V_R = 0.5\text{ V}$; $f = 1\text{ MHz}$; see Figs 2 and 4	92	112	pF
		$V_R = 28\text{ V}$; $f = 1\text{ MHz}$; see Figs 2 and 4	2.4	2.8	pF
$\frac{C_{d(0.5V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1\text{ MHz}$	35	43	
$\frac{\Delta C_d}{C_d}$	capacitance matching	$V_R = 0.5\text{ to }28\text{ V}$; in a sequence of 8 diodes (gliding)	–	2	%

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GRAPHICAL DATA



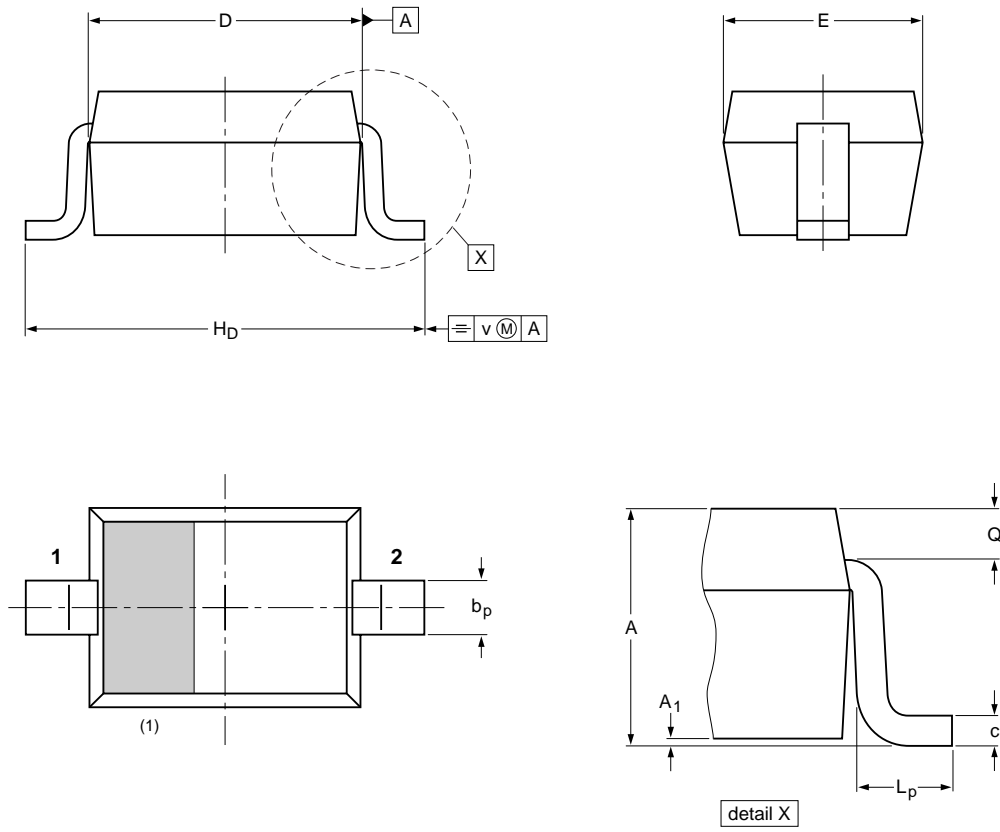
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	H _D	L _p	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

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DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	DEFINITION
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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.

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