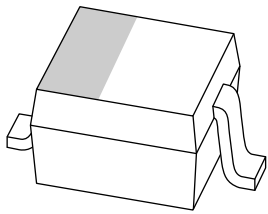


DATA SHEET



BB131

VHF variable capacitance diode

Product specification
Supersedes data of 1998 Sep 15

2004 Feb 10



VHF variable capacitance diode

BB131

FEATURES

- Excellent linearity
- Very small plastic SMD package
- C28: 1 pF; ratio: 14.

APPLICATIONS

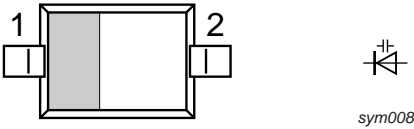
- Electronic tuning in satellite tuners
- Tunable coupling
- VCO.

DESCRIPTION

The BB131 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the SOD323 (SC-76) very small plastic SMD package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



Marking code: P1.
The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD323; SC-76) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BB131	–	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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CHARACTERISTICS $T_j = 25\text{ °C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_R	reverse current	$V_R = 30\text{ V}$; see Fig.3	–	10	nA
		$V_R = 30\text{ V}$; $T_j = 85\text{ °C}$; see Fig.3	–	200	nA
r_s	diode series resistance	$f = 470\text{ MHz}$; note 1	–	3	Ω
C_d	diode capacitance	$V_R = 0.5\text{ V}$; $f = 1\text{ MHz}$; see Figs 2 and 4	8	17	pF
		$V_R = 28\text{ V}$; $f = 1\text{ MHz}$; see Figs 2 and 4	0.7	1.055	pF
$\frac{C_{d(0.5V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1\text{ MHz}$	12	16	

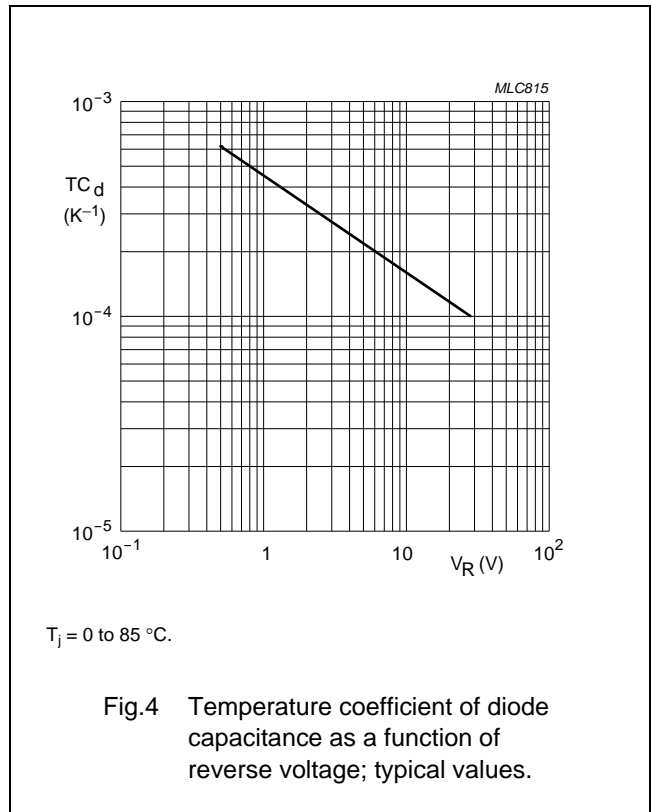
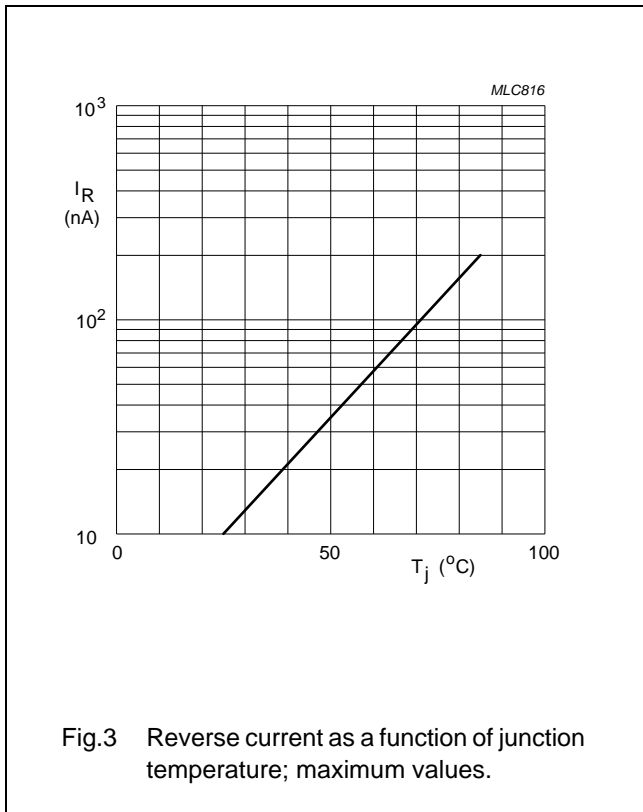
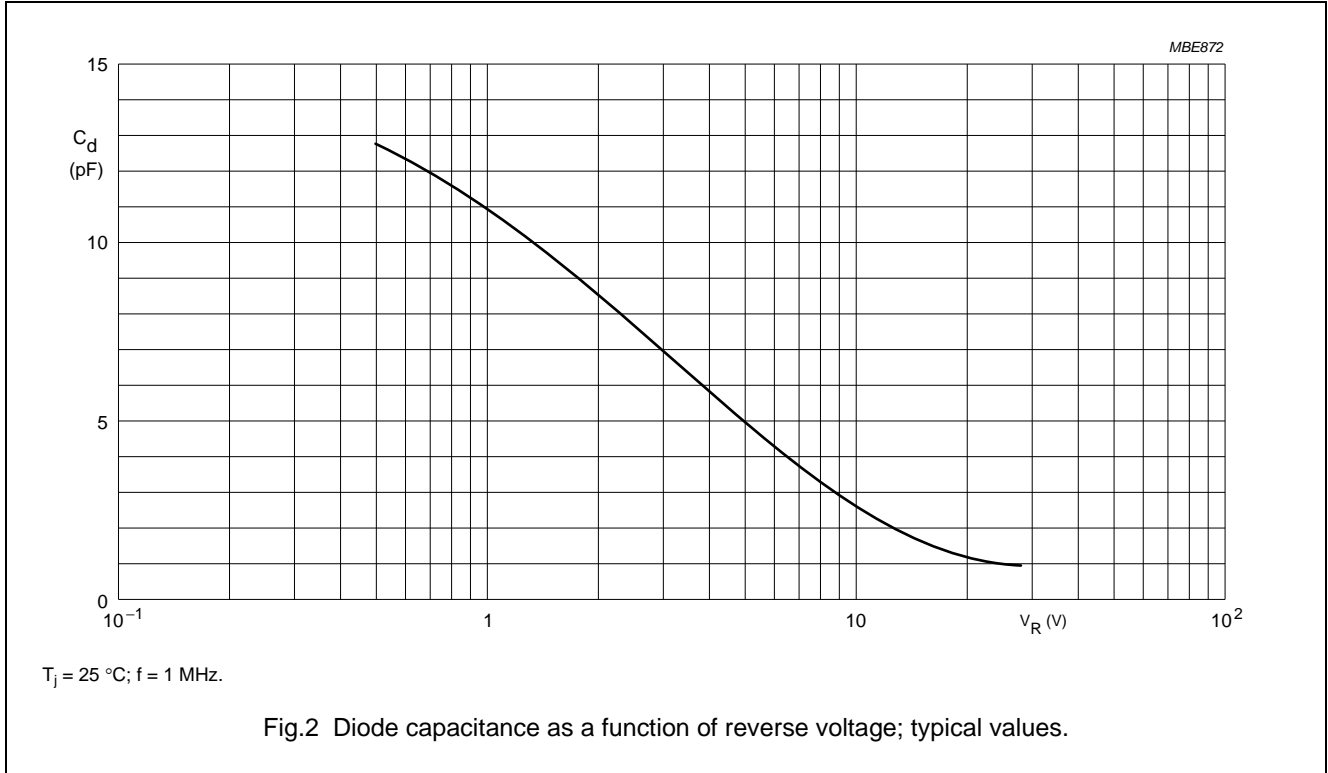
Note

1. V_R is the value at which $C_d = 9\text{ pF}$.

VHF variable capacitance diode

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GRAPHICAL DATA



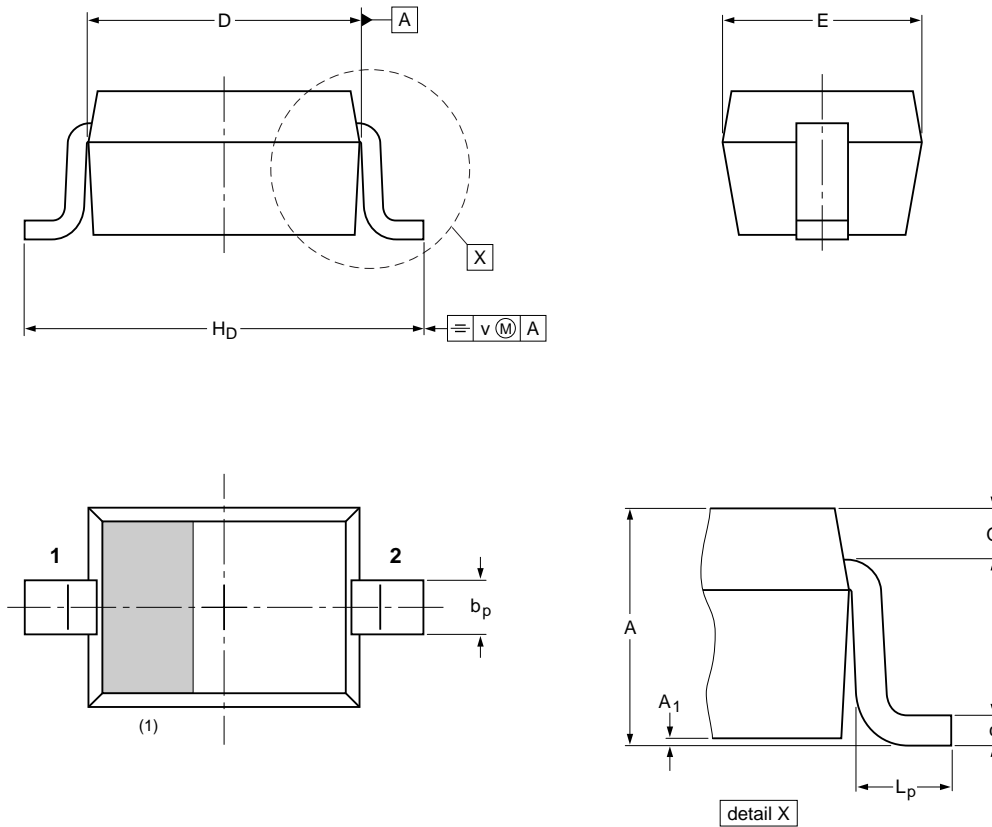
VHF variable capacitance diode

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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		03-12-17 06-03-16

VHF 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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VHF variable capacitance diode

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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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