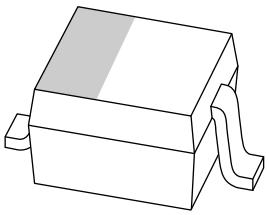
DATA SHEET



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

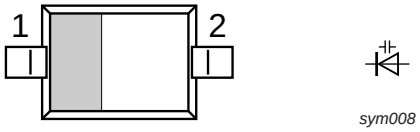
- Electronic tuning in satellite tuners
- Tunable coupling
- VCO.

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

CHARACTERISTICS

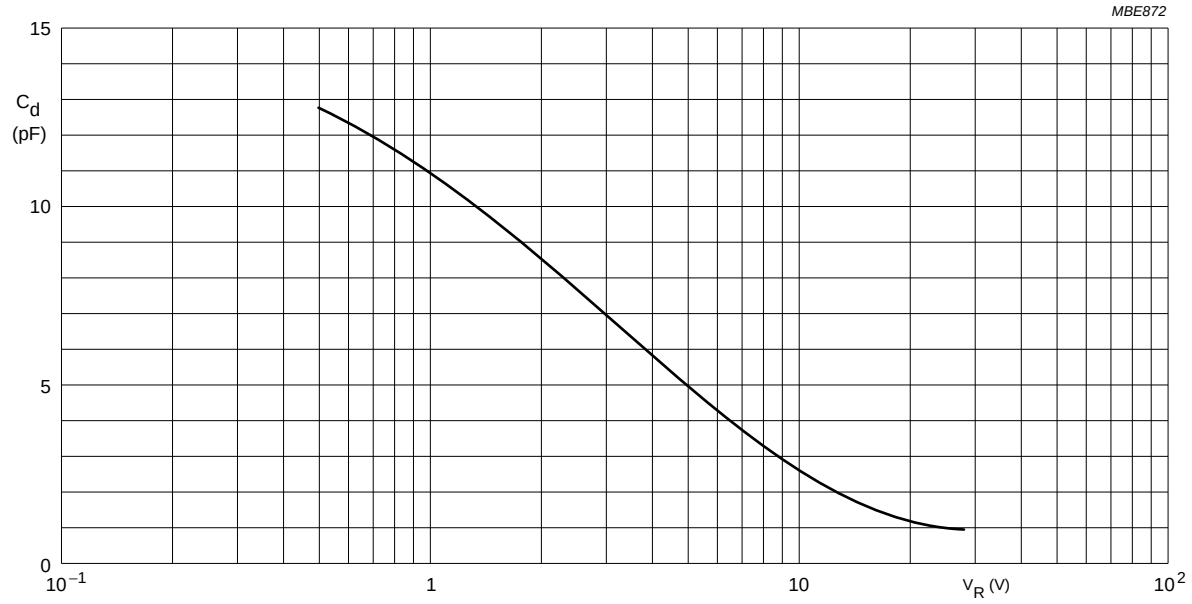
T_j = 25 °C unless otherwise specified.

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

Note

1. V_R is the value at which C_d = 9 pF.

GRAPHICAL DATA



T_j = 25 °C; f = 1 MHz.

Fig.2 Diode capacitance as a function of reverse voltage; typical values.

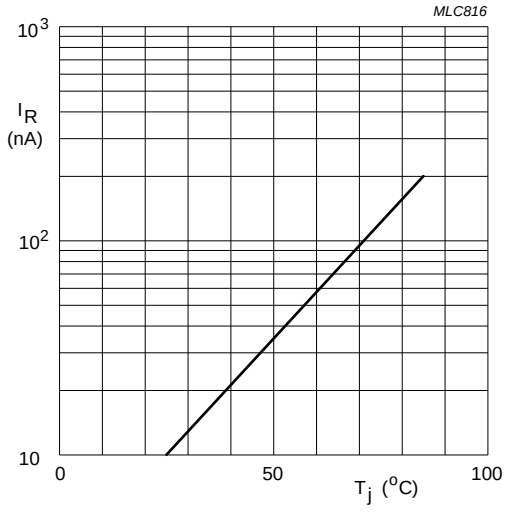
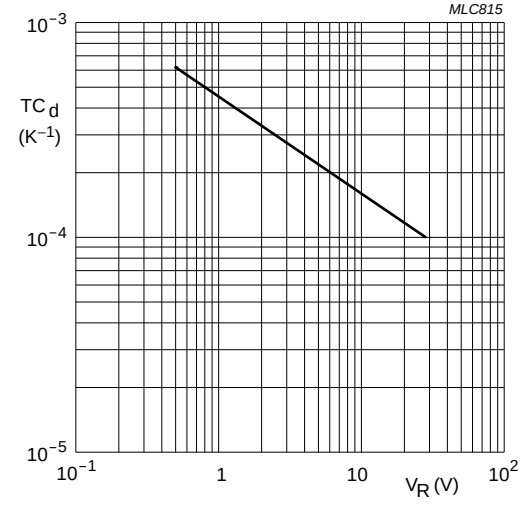


Fig.3 Reverse current as a function of junction temperature; maximum values.

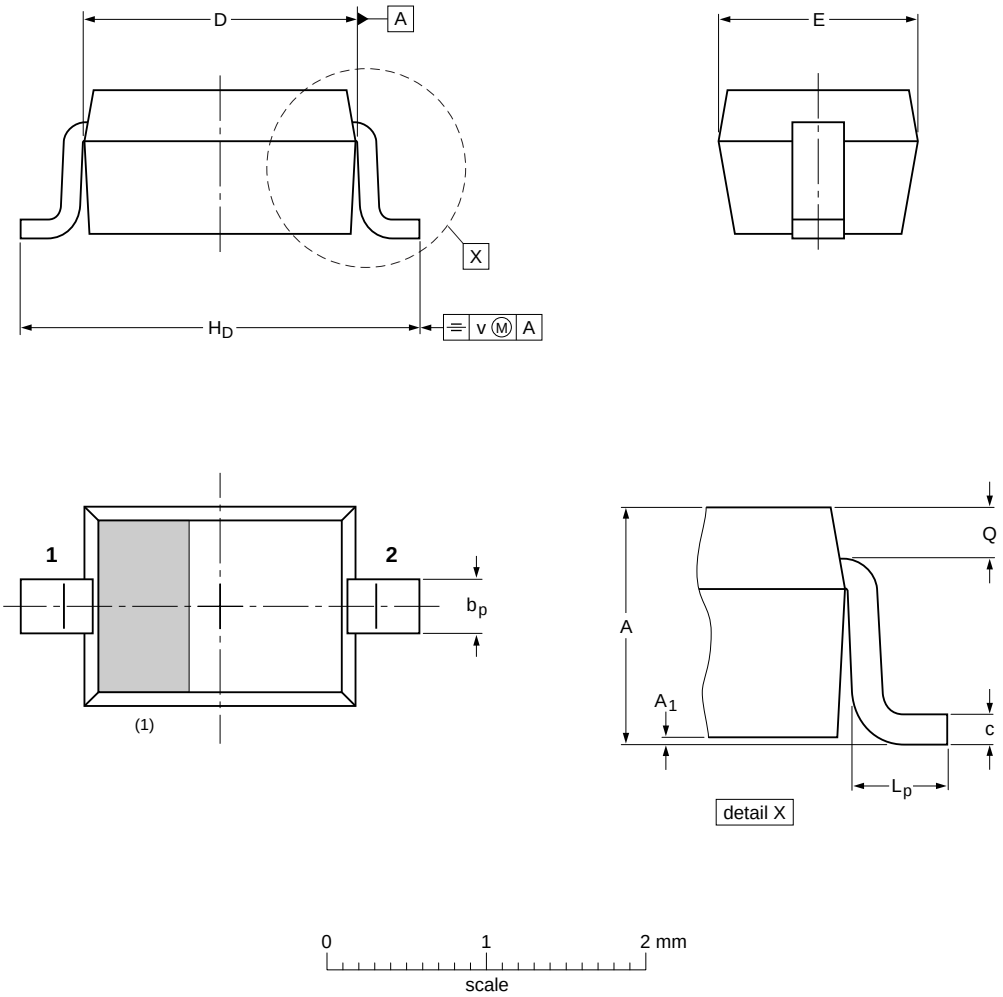


T_j = 0 to 85 °C.

Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

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

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.

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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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Printed in The Netherlands R77/03/pp8 Date of release: 2004 Feb 10