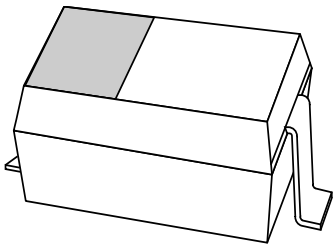


# DATA SHEET



**BB135**

UHF variable capacitance diode

Product specification  
Supersedes data of 1998 Sep 15

2004 Mar 01



# UHF variable capacitance diode

# BB135

### FEATURES

- Excellent linearity
- Very small plastic SMD package.
- C28: 1.9 pF; ratio: 10
- Low series resistance.

### APPLICATIONS

- Electronic tuning in UHF television tuners.
- Radio upconversion concepts
- VCO.

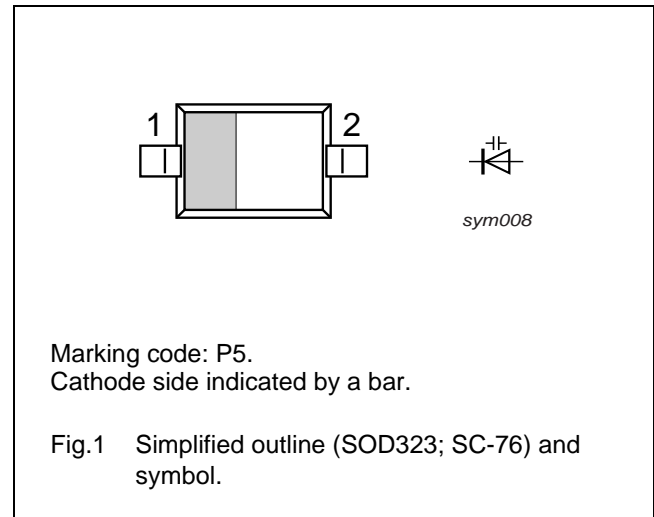
### DESCRIPTION

The BB135 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the SOD323 very small plastic SMD package.

The matched type, BB134 has the same specification.

### PINNING

PIN	DESCRIPTION
1	cathode
2	anode



### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BB135	–	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

## UHF variable capacitance diode

BB135

**ELECTRICAL 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	–	0.75	$\Omega$
$C_d$	diode capacitance	$V_R = 0.5\text{ V}$ ; $f = 1\text{ MHz}$ ; see Figs 2 and 4	17.5	21	pF
		$V_R = 28\text{ V}$ ; $f = 1\text{ MHz}$ ; see Figs 2 and 4	1.7	2.1	pF
$\frac{C_{d(0.5V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1\text{ MHz}$	8.9	12	

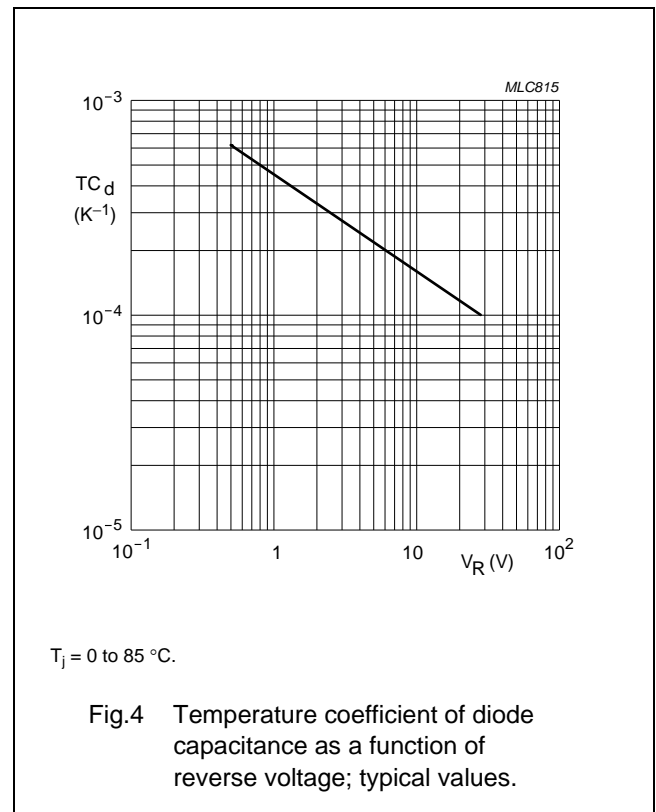
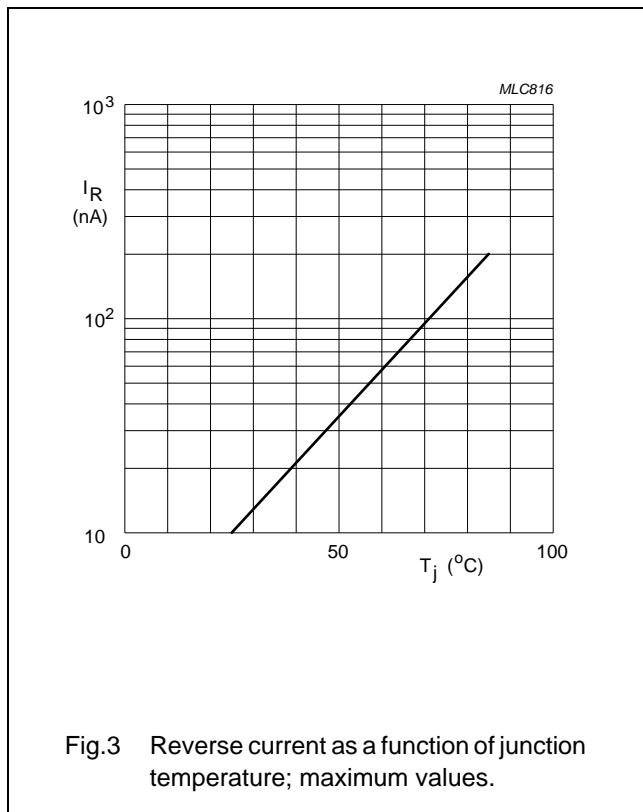
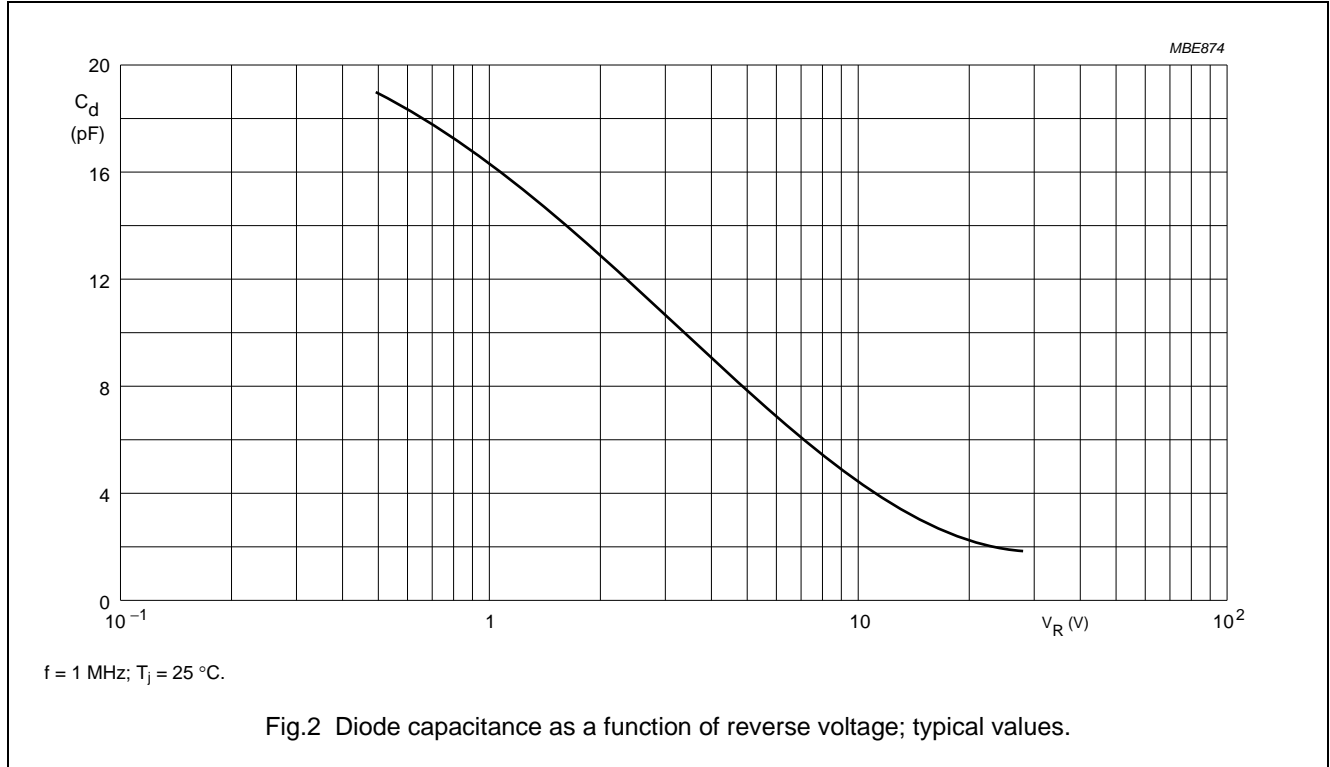
**Note**

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

UHF variable capacitance diode

BB135

GRAPHICAL DATA



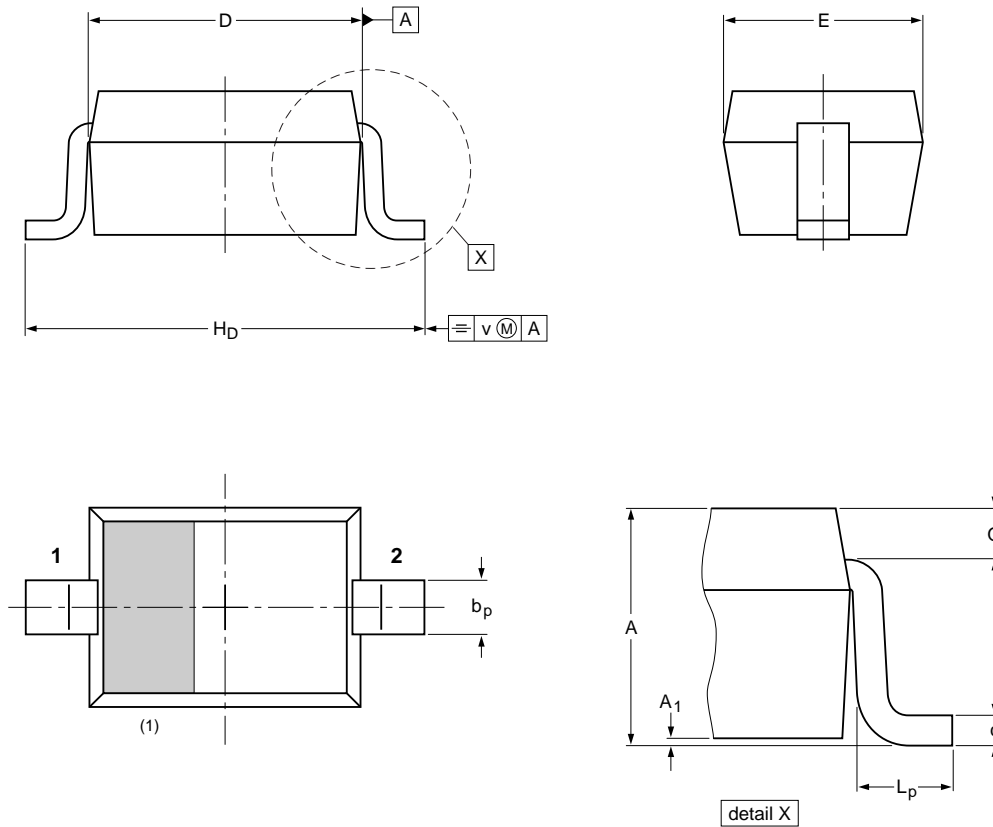
UHF variable capacitance diode

BB135

PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	H <sub>D</sub>	L <sub>p</sub>	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		<del>03-12-17</del> 06-03-16

## UHF variable capacitance diode

BB135

## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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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## UHF variable capacitance diode

BB135

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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**

For additional information please visit: <http://www.nxp.com>

For sales offices addresses send e-mail to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

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