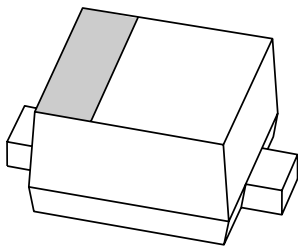


# DATA SHEET



**BB182**

VHF variable capacitance diode

Product specification

1997 Nov 13

## VHF variable capacitance diode

BB182

## FEATURES

- High linearity
- Excellent matching to 2% DMA
- Ultra small plastic SMD package
- C28: 2.7 pF; ratio: 22
- Low series resistance.

## DESCRIPTION

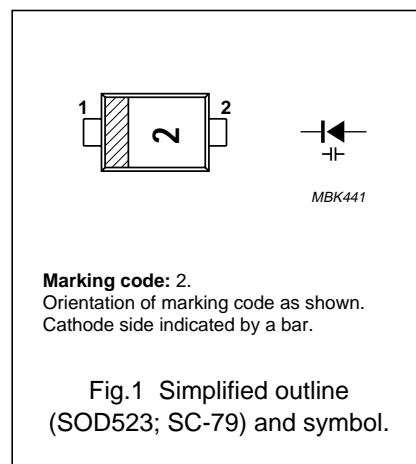
The BB182 is a planar technology variable capacitance diode, in a SOD523 (SC-79) package. The excellent matching performance is achieved by gliding matching and a direct matching assembly procedure.

## APPLICATIONS

- Electronic tuning in VHF television tuners, band A up to 160 MHz
- Voltage controlled oscillators (VCO).

## PINNING

PIN	DESCRIPTION
1	cathode
2	anode



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		—	32	V
$V_{RM}$	peak reverse voltage	in series with a 10 k $\Omega$ resistor	—	35	V
$I_F$	continuous forward current		—	20	mA
$T_{stg}$	storage temperature		–55	+150	°C
$T_j$	operating junction temperature		–55	+125	°C

## ELECTRICAL CHARACTERISTICS

$T_j = 25\text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	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	$f = 100\text{ MHz}$ ; $V_R$ is the value at which $C_d = 30\text{ pF}$	—	1	1.2	$\Omega$
$C_d$	diode capacitance	$V_R = 1\text{ V}$ ; $f = 1\text{ MHz}$ ; see Figs 2 and 4	52	—	62	pF
		$V_R = 28\text{ V}$ ; $f = 1\text{ MHz}$ ; see Figs 2 and 4	2.48	—	2.89	pF
$\frac{C_{d(1V)}}{C_{d(2V)}}$	capacitance ratio	$f = 1\text{ MHz}$	—	1.31	—	
$\frac{C_{d(1V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1\text{ MHz}$	20.6	—	—	
$\frac{C_{d(25V)}}{C_{d(28V)}}$	capacitance ratio	$f = 1\text{ MHz}$	—	1.05	—	
$\frac{\Delta C_d}{C_d}$	capacitance matching	$V_R = 1\text{ to }28\text{ V}$ ; in a sequence of 15 diodes (gliding)	—	—	2	%

## VHF variable capacitance diode

BB182

## GRAPHICAL DATA

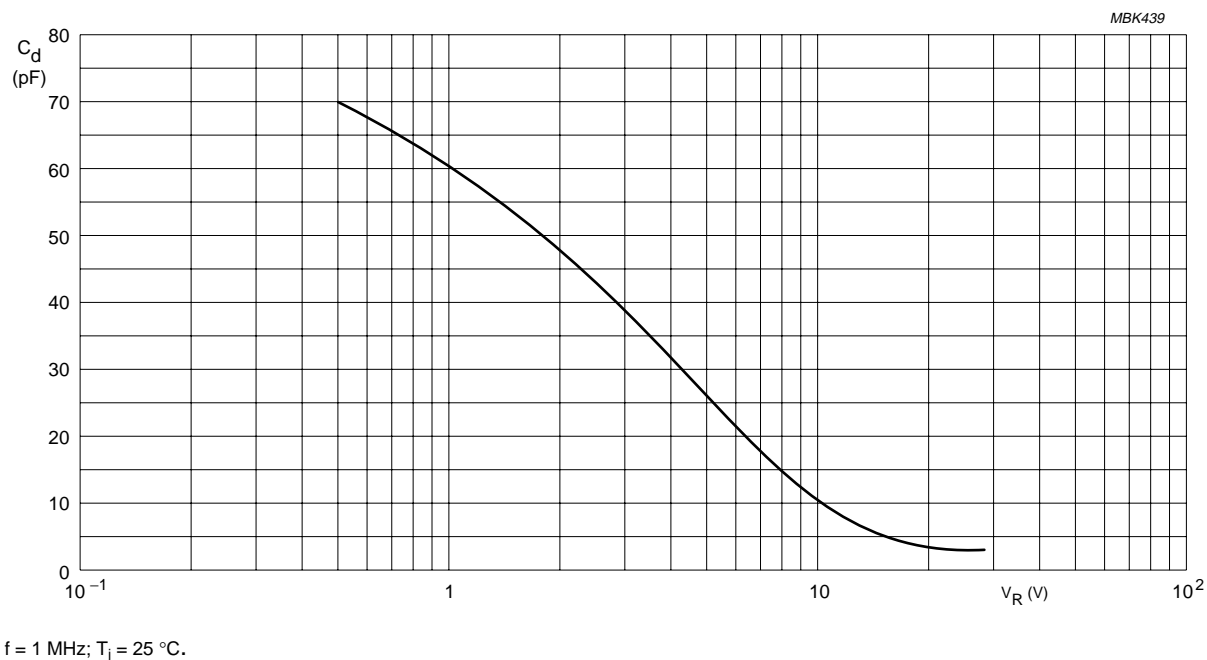


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

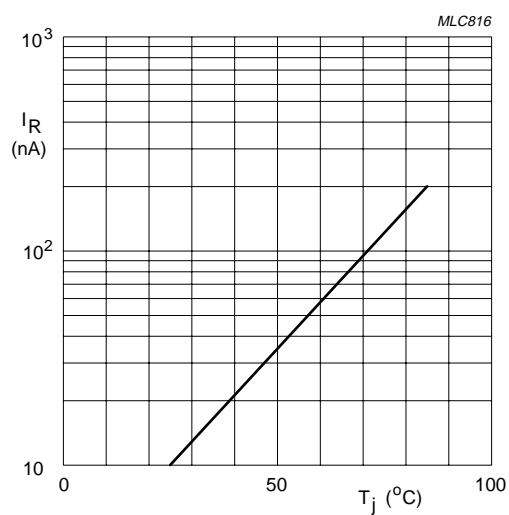


Fig.3 Reverse current as a function of junction temperature; maximum values.

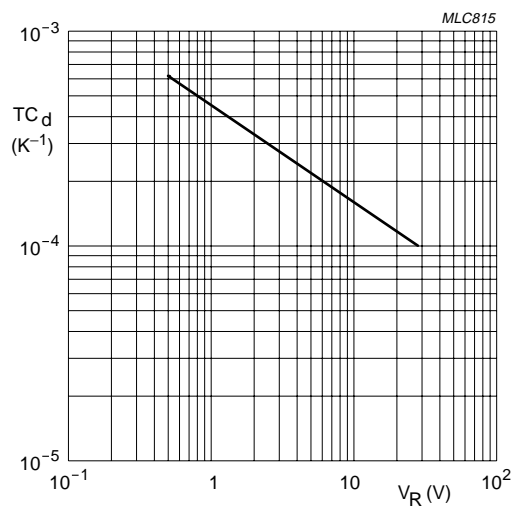


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

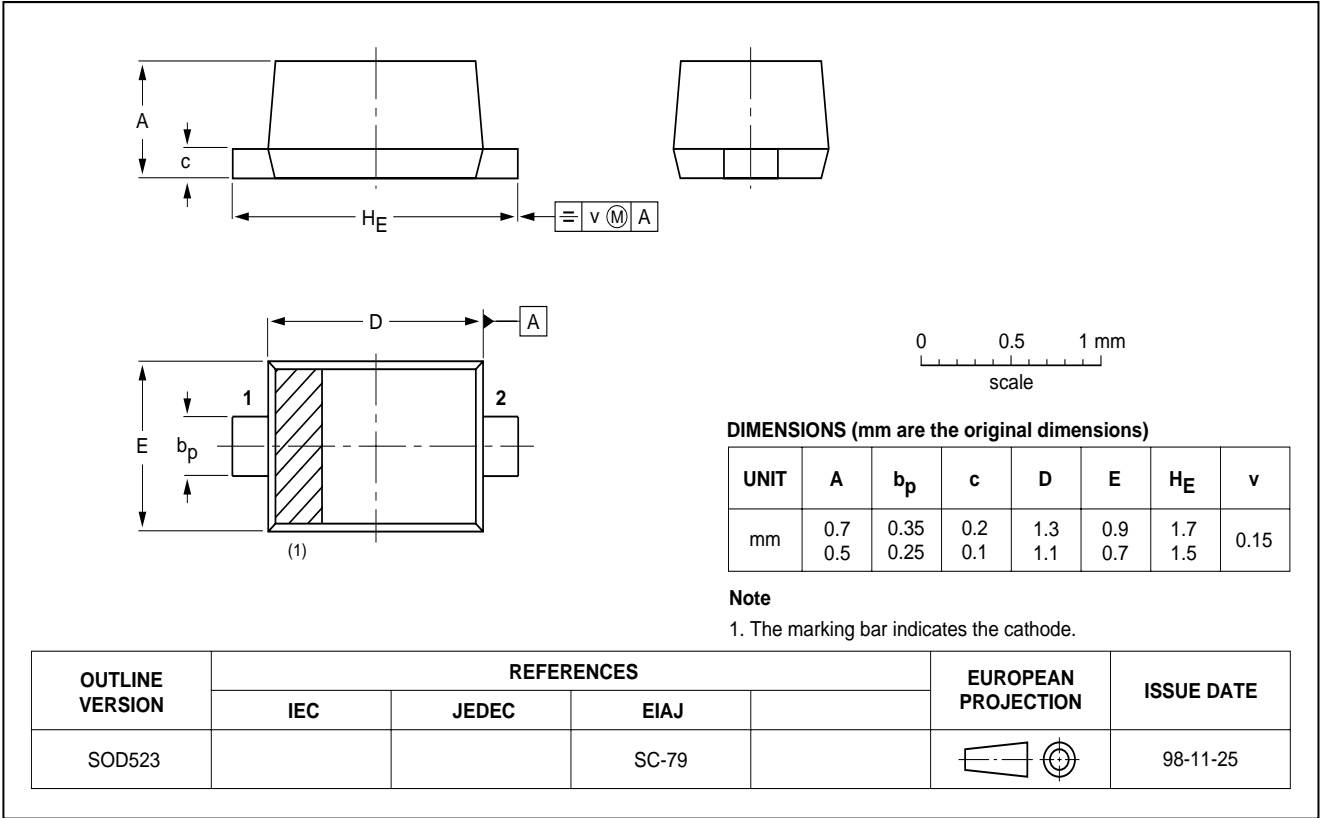
VHF variable capacitance diode

BB182

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523



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**VHF variable capacitance diode****BB182**

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**DEFINITIONS**

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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VHF variable capacitance diode

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**NOTES**

VHF variable capacitance diode

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**NOTES**

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