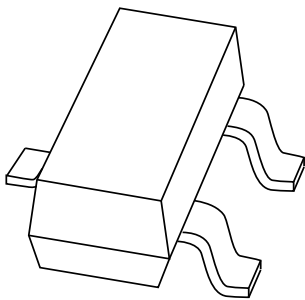


# DATA SHEET



**BBY40**

VHF variable capacitance diode

Product specification  
Supersedes data of November 1993

1996 May 03



# VHF variable capacitance diode

# BBY40

### FEATURES

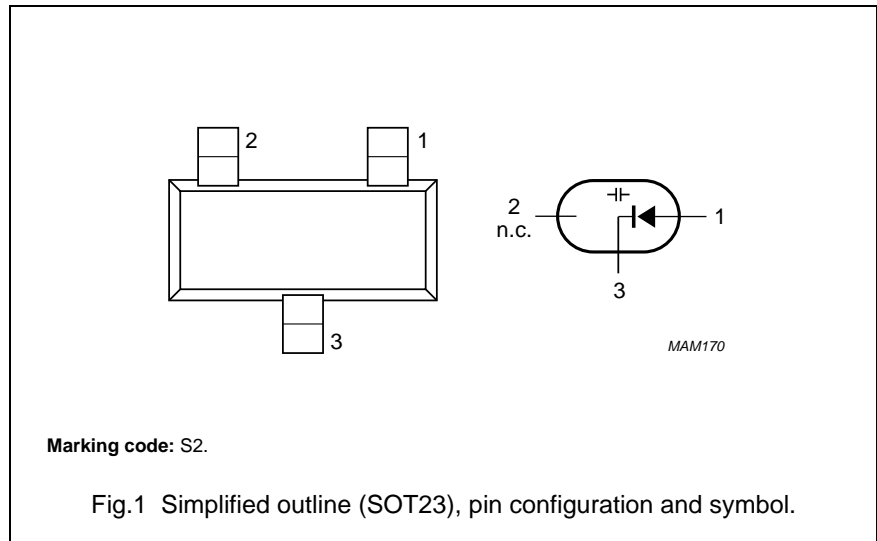
- Excellent linearity
- Small plastic SMD package
- C25: 4.6 pF; ratio: 5.5.

### APPLICATIONS

- Electronic tuning in VHF television tuners, band A up to 160 MHz.

### DESCRIPTION

The BBY40 is a variable capacitance diode, fabricated in planar technology, and encapsulated in the SOT23 small plastic SMD package.



### LIMITING VALUES

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

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

### ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_R$	reverse current	$V_R = 28\text{ V}$ ; see Fig.3	–	–	10	nA
		$V_R = 28\text{ V}$ ; $T_j = 85\text{ °C}$ ; see Fig.3	–	–	200	nA
$r_s$	diode series resistance	$f = 200\text{ MHz}$ ; note 1	–	–	0.7	$\Omega$
$C_d$	diode capacitance	$V_R = 3\text{ V}$ ; $f = 1\text{ MHz}$ ; see Figs 2 and 4	26	–	32	pF
		$V_R = 25\text{ V}$ ; $f = 1\text{ MHz}$ ; see Figs 2 and 4	4.3	–	6	pF
$\frac{C_{d(3V)}}{C_{d(25V)}}$	capacitance ratio	$f = 1\text{ MHz}$	5	–	6.5	

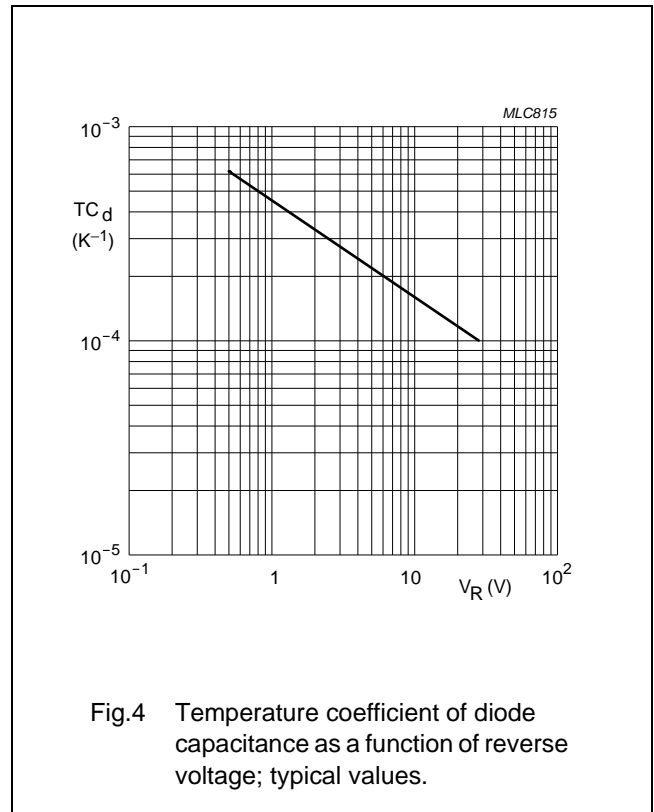
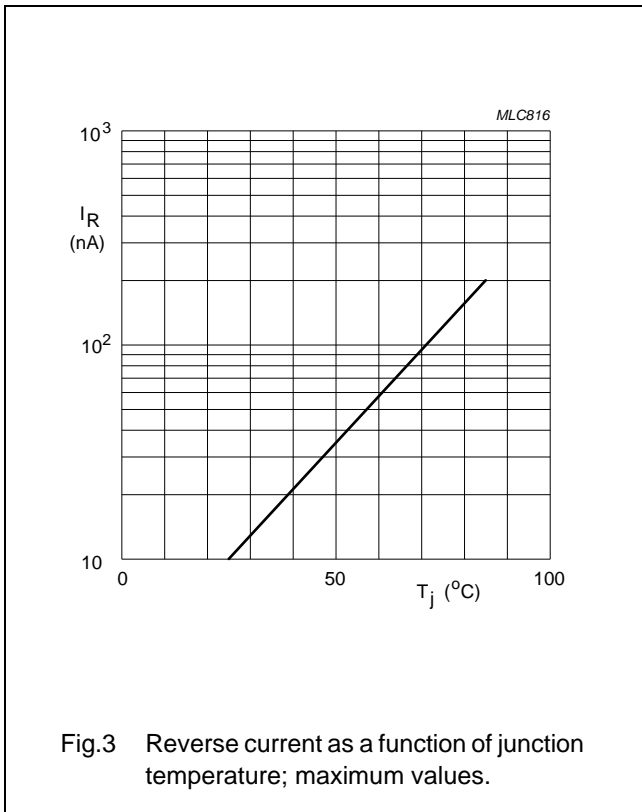
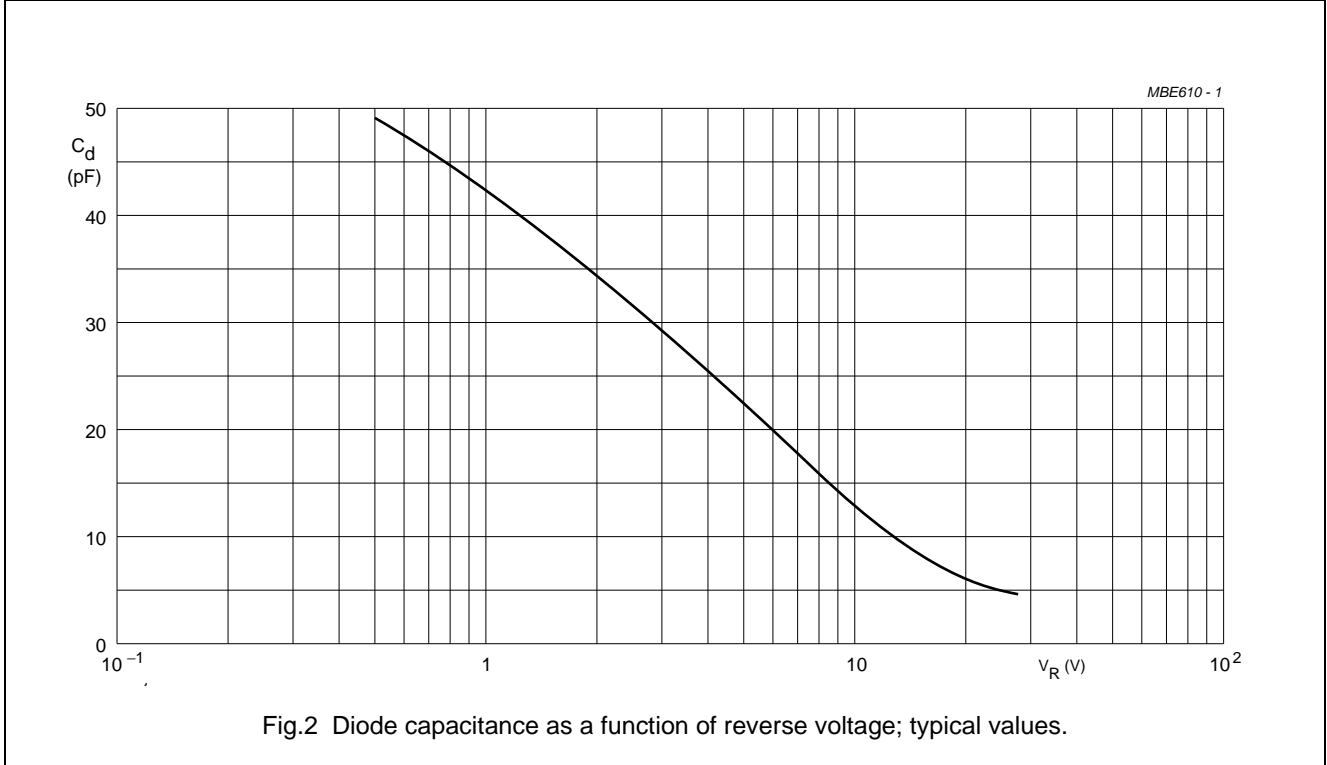
### Note

1.  $V_R$  is the value at which  $C_d = 25\text{ pF}$ .

VHF variable capacitance diode

BBY40

GRAPHICAL DATA



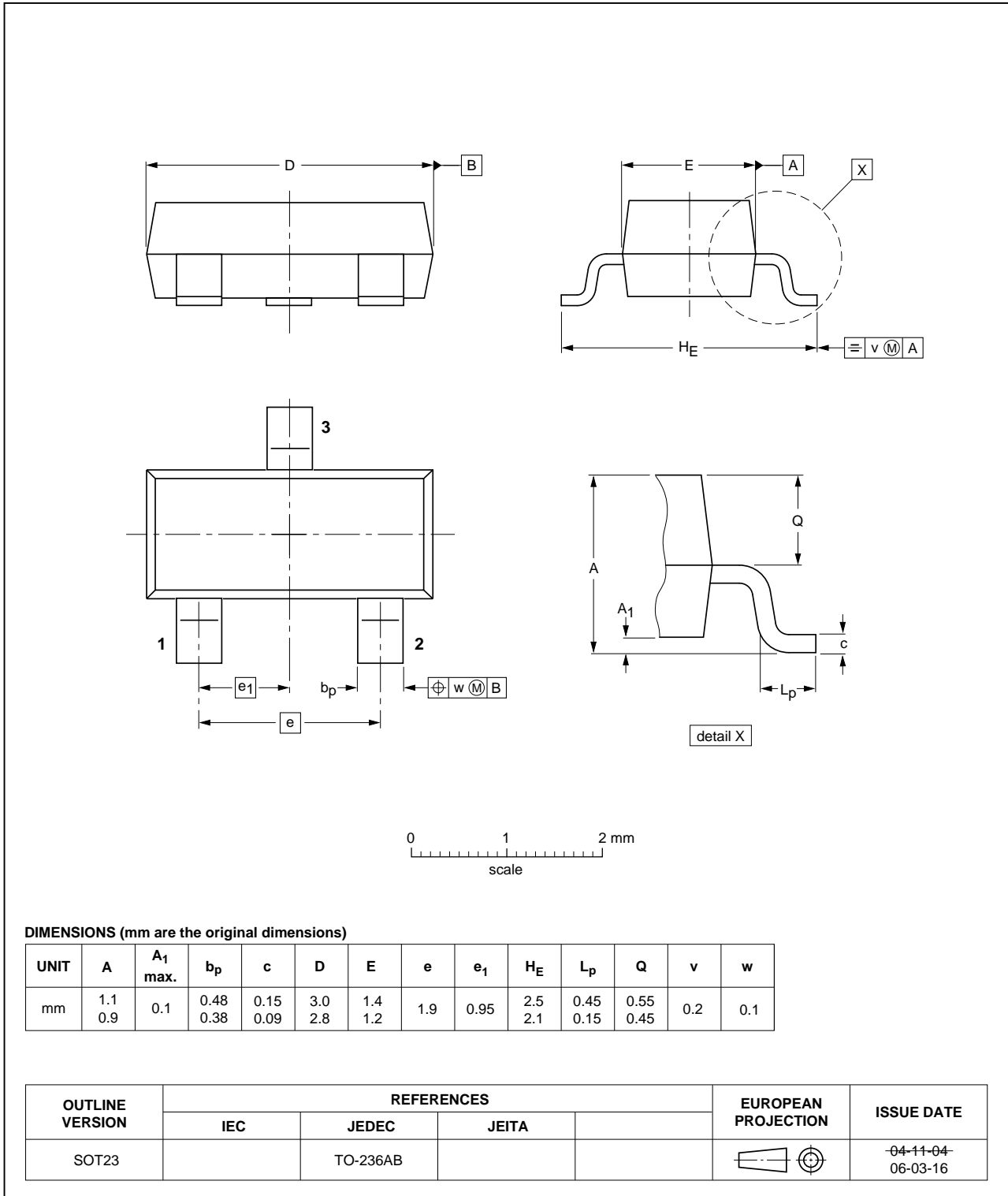
VHF variable capacitance diode

BBY40

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



## VHF variable capacitance diode

BBY40

## 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.

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## VHF variable capacitance diode

## BBY40

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## **Contact information**

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