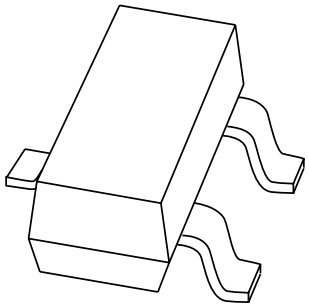
DATA SHEET



BB200
Low-voltage variable capacitance double diode

Product specification

2001 Oct 12

Philips
Semiconductors

PHILIPS

Low-voltage variable capacitance double diode BB200

FEATURES

- Very steep C/V curve
- C1: 70 pF; C4.5: 13.4 pF
- C1 to C5 ratio: min. 5
- Low series resistance
- Small plastic SMD package.

APPLICATIONS

- Electronic tuning in FM-radio
- Voltage Controlled Oscillators (VCO).

DESCRIPTION

The BB200 is a variable capacitance double diode with a common cathode, fabricated in silicon planar technology and encapsulated in the SOT23 small plastic SMD package.

MARKING

TYPE NUMBER	MARKING CODE
BB200	SBp

PINNING

PIN	DESCRIPTION
1	anode (a_1)
2	anode (a_2)
3	common cathode

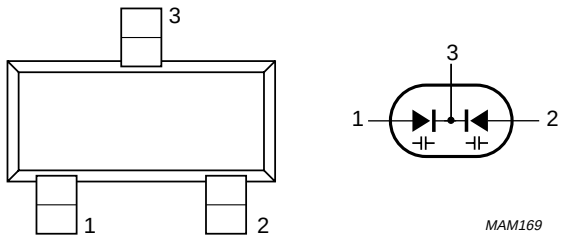


Fig.1 Simplified outline (SOT23) and symbol.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Per diode				
V_R	continuous reverse voltage	–	18	V
I_F	continuous forward current	–	50	mA
T_{stg}	storage temperature range	–55	+150	°C
T_j	operating junction temperature	–55	+85	°C

CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per diode						
I_R	reverse current	V_R = 10 V	–	–	50	nA
r_s	diode series resistance	f = 100 MHz; V_R = 1.5 V	–	0.43	0.6	Ω
C_d	diode capacitance	V_R = 1 V; f = 1 MHz	65.8	70	74.2	pF
		V_R = 4.5 V; f = 1 MHz	12	13.4	14.8	pF
$\frac{C_{d(1V)}}{C_{d(5V)}}$	capacitance ratio	f = 1 MHz	5	–	–	

GRAPHICAL DATA

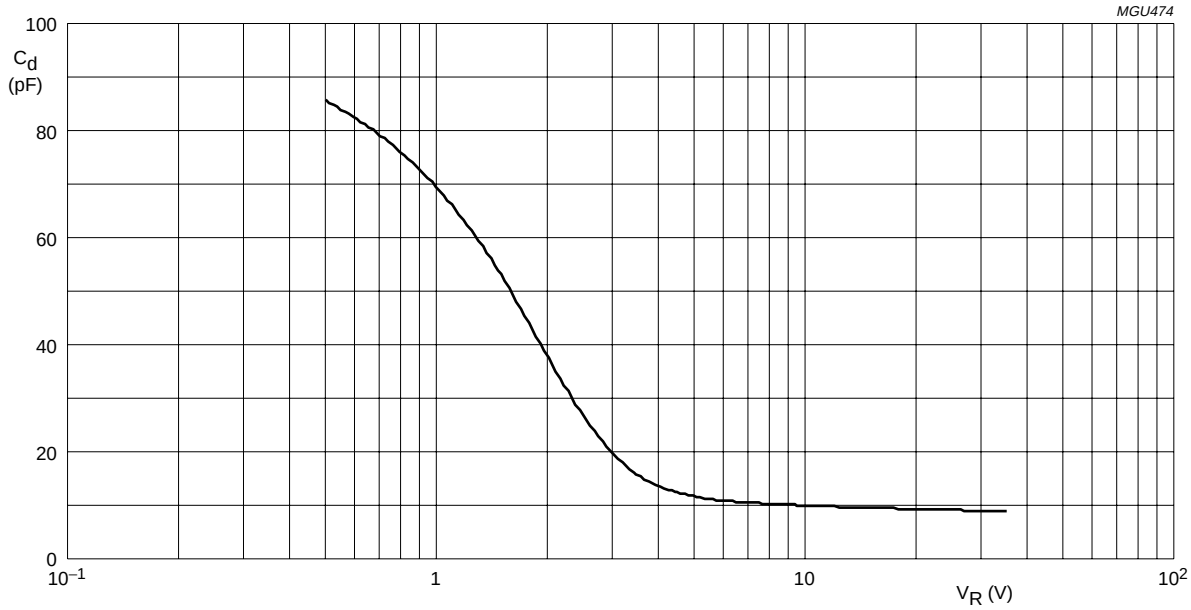


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

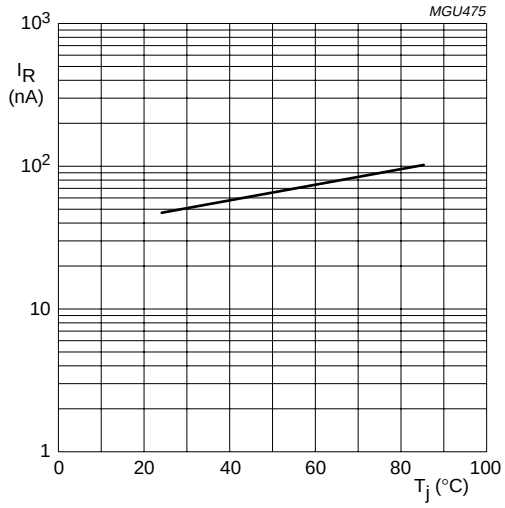


Fig.3 Reverse current as a function of junction temperature; maximum values.

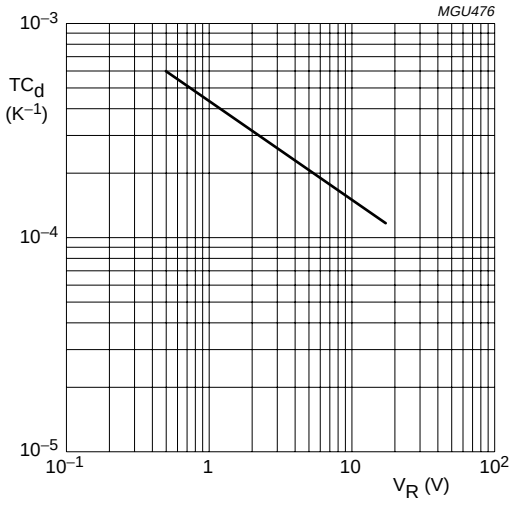
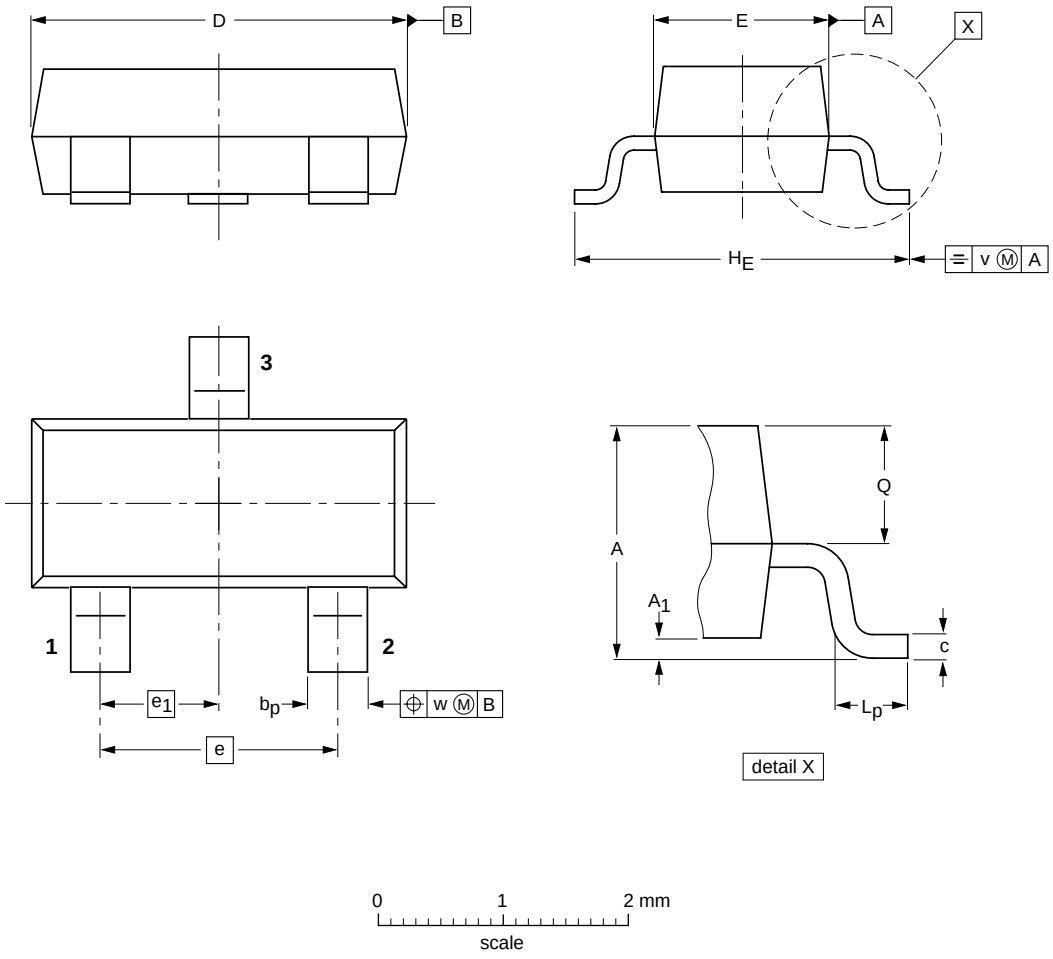


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT23**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max.	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23		TO-236AB				~~97-02-28~~ 99-09-13

DATA SHEET STATUS

DATA SHEET STATUS[1]	PRODUCT STATUS[2]	DEFINITIONS
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