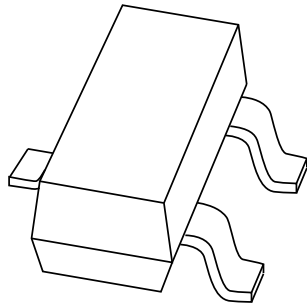


DATA SHEET



BB201

Low-voltage variable capacitance
double diode

Low-voltage variable capacitance double diode

BB201

FEATURES

- Excellent linearity
- C1: 95 pF; C7.5: 27.6 pF
- C1 to C7.5 ratio: min. 3.1
- Very low series resistance
- Small plastic SMD package.

APPLICATIONS

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

DESCRIPTION

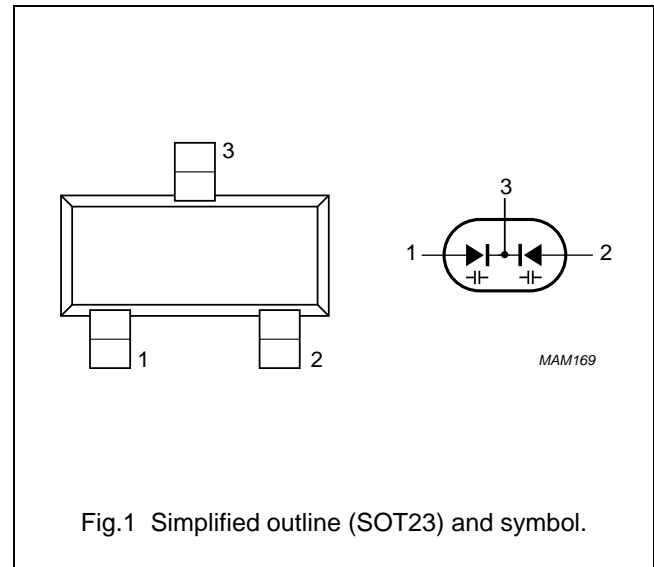
The BB201 is a variable capacitance double diode with a common cathode, fabricated in silicon planar technology and encapsulated in the SOT23 small plastic SMD package.

MARKING

| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| BB201 | SCp |

PINNING

| PIN | DESCRIPTION |
|-----|-------------------------|
| 1 | anode (a ₁) |
| 2 | anode (a ₂) |
| 3 | common cathode |



LIMITING VALUES

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

| SYMBOL | PARAMETER | MIN. | MAX. | UNIT |
|------------------|--------------------------------|------|------|------|
| Per diode | | | | |
| V _R | continuous reverse voltage | – | 15 | V |
| I _F | continuous forward current | – | 20 | mA |
| T _{stg} | storage temperature range | –55 | +125 | °C |
| T _j | operating junction temperature | –55 | +125 | °C |

Low-voltage variable capacitance double diode

BB201

CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---------------------------------|-------------------------|---|------|------|------|------|
| Per diode | | | | | | |
| I _R | reverse current | V _R = 15 V | – | – | 10 | nA |
| | | V _R = 15 V; T _j = 85 °C | – | – | 200 | nA |
| r _S | diode series resistance | f = 100 MHz; V _R = 3 V | – | 0.25 | 0.5 | Ω |
| C _d | diode capacitance | V _R = 1 V; f = 1 MHz | 89 | 95 | 102 | pF |
| | | V _R = 3 V; f = 1 MHz | – | 60 | – | pF |
| | | V _R = 7.5 V; f = 1 MHz | 25.5 | 27.6 | 29.7 | pF |
| | | V _R = 8 V; f = 1 MHz | – | 25.5 | – | pF |
| $\frac{C_{d(1V)}}{C_{d(7.5V)}}$ | capacitance ratio | f = 1 MHz | 3.1 | – | 3.8 | |

GRAPHICAL DATA

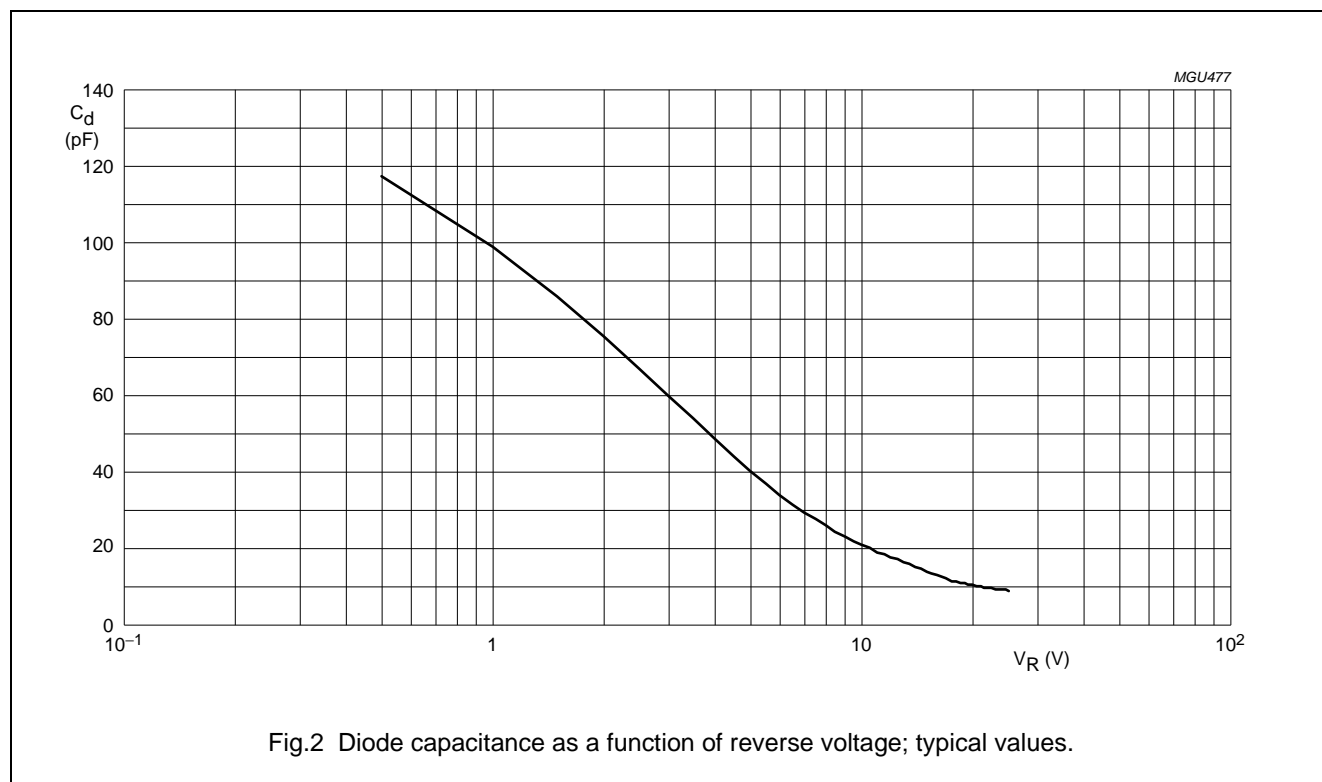


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

Low-voltage variable capacitance double diode

BB201

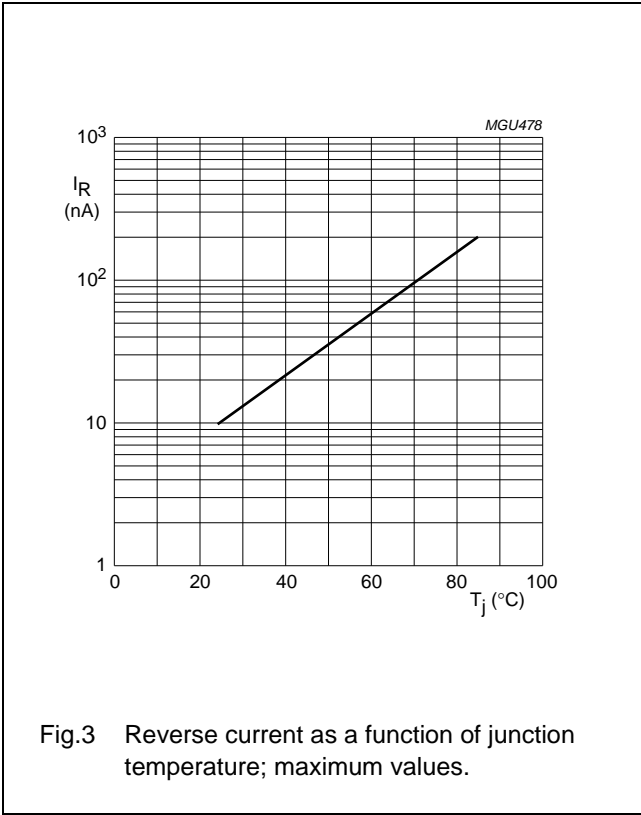


Fig.3 Reverse current as a function of junction temperature; maximum values.

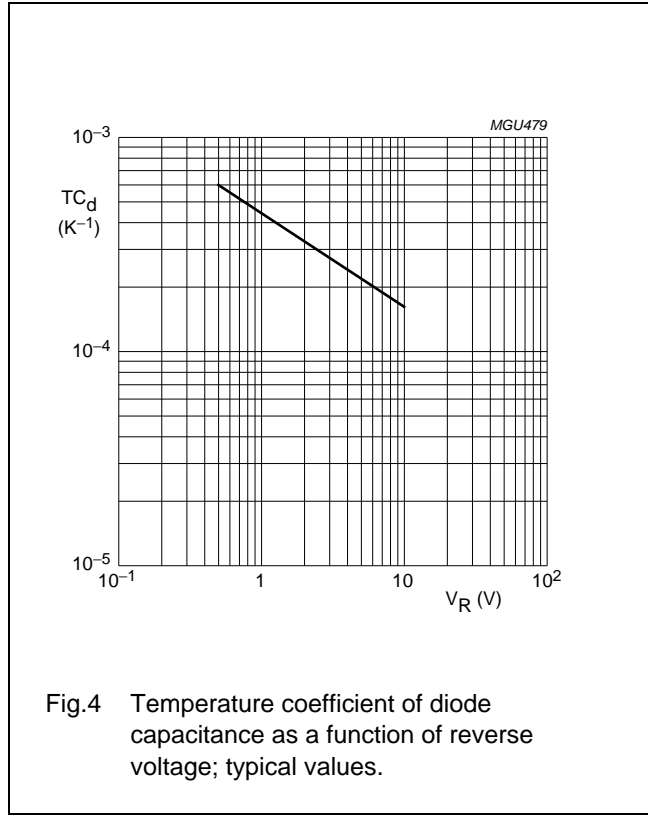


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.

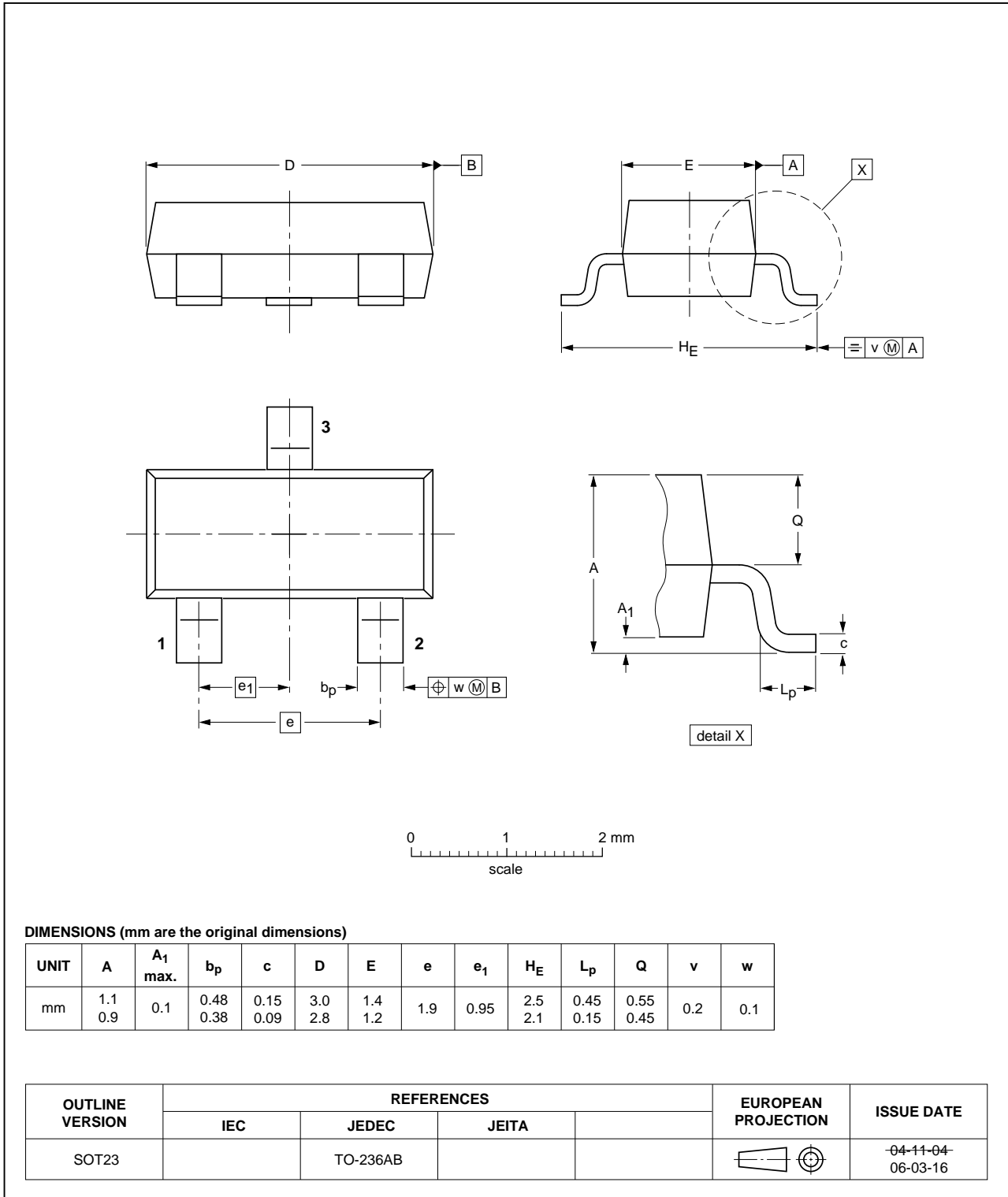
Low-voltage variable capacitance double diode

BB201

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



Low-voltage variable capacitance double diode

BB201

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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BB201

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Contact information

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