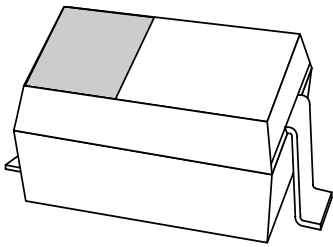


DATA SHEET



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.

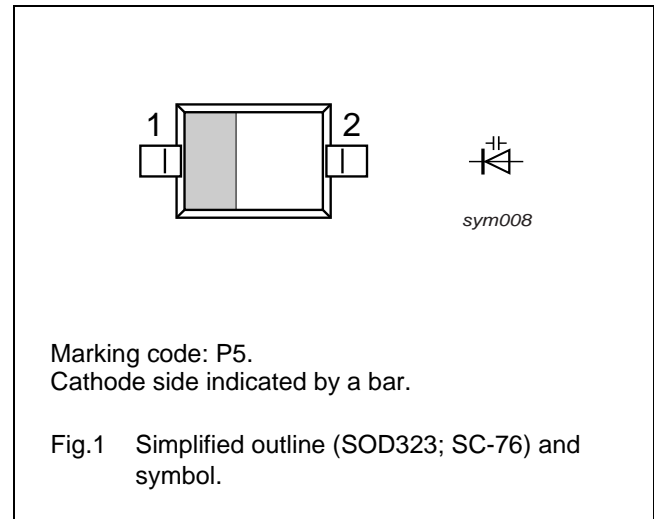
DESCRIPTION

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 CHARACTERISTICST_j = 25 °C unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|----------------------------------|-------------------------|--|------|------|------|
| I _R | reverse current | V _R = 30 V; see Fig.3 | – | 10 | nA |
| | | V _R = 30 V; T _j = 85 °C; see Fig.3 | – | 200 | nA |
| r _s | diode series resistance | f = 470 MHz; note 1 | – | 0.75 | Ω |
| C _d | diode capacitance | V _R = 0.5 V; f = 1 MHz; see Figs 2 and 4 | 17.5 | 21 | pF |
| | | V _R = 28 V; f = 1 MHz; see Figs 2 and 4 | 1.7 | 2.1 | pF |
| $\frac{C_{d(0.5V)}}{C_{d(28V)}}$ | capacitance ratio | f = 1 MHz | 8.9 | 12 | |

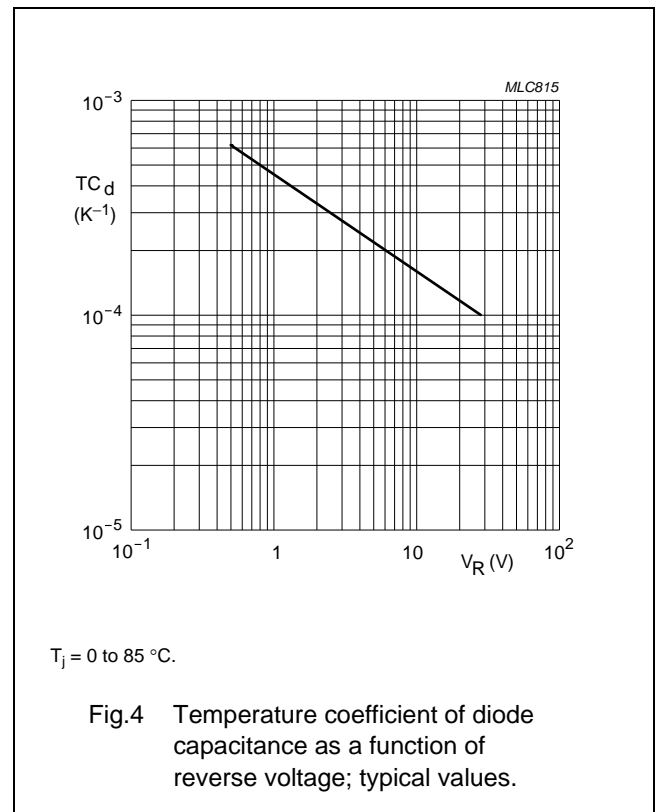
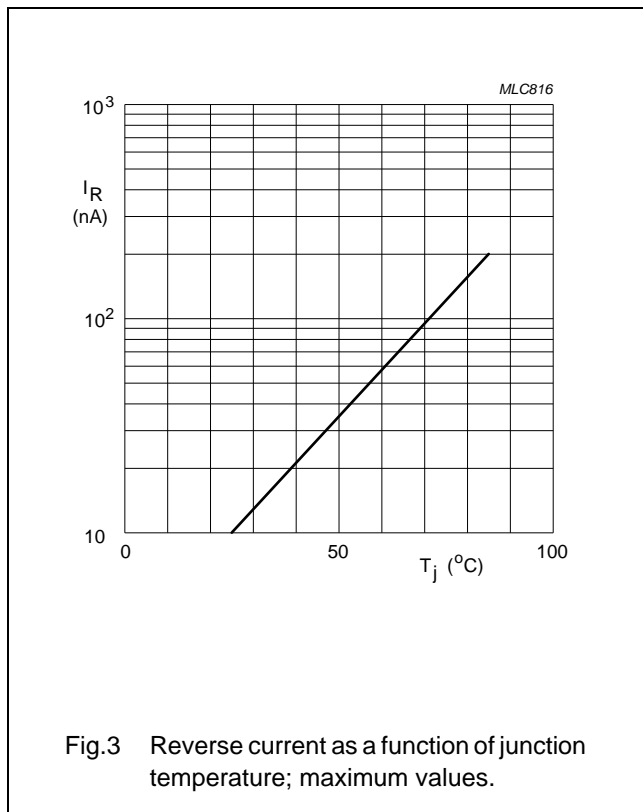
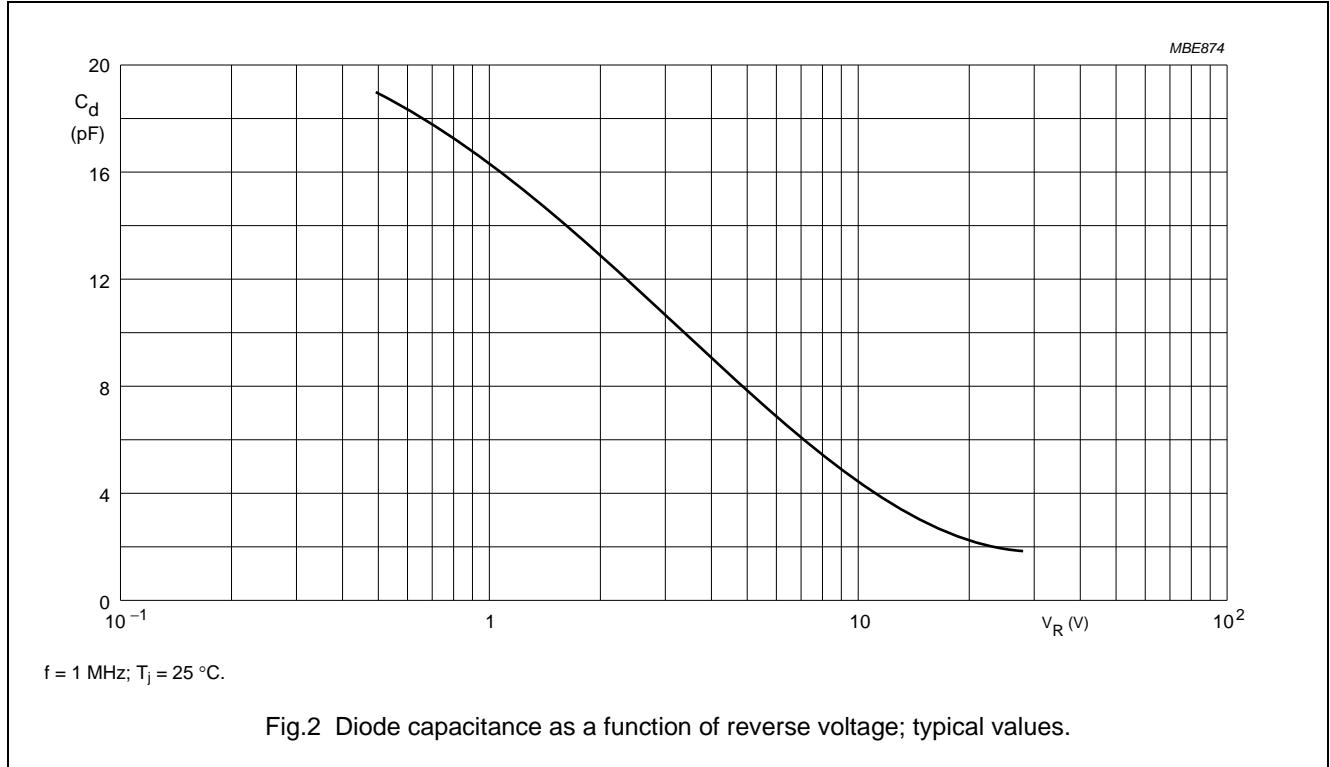
Note

1. V_R is the value at which C_d = 9 pF.

UHF variable capacitance diode

BB135

GRAPHICAL DATA



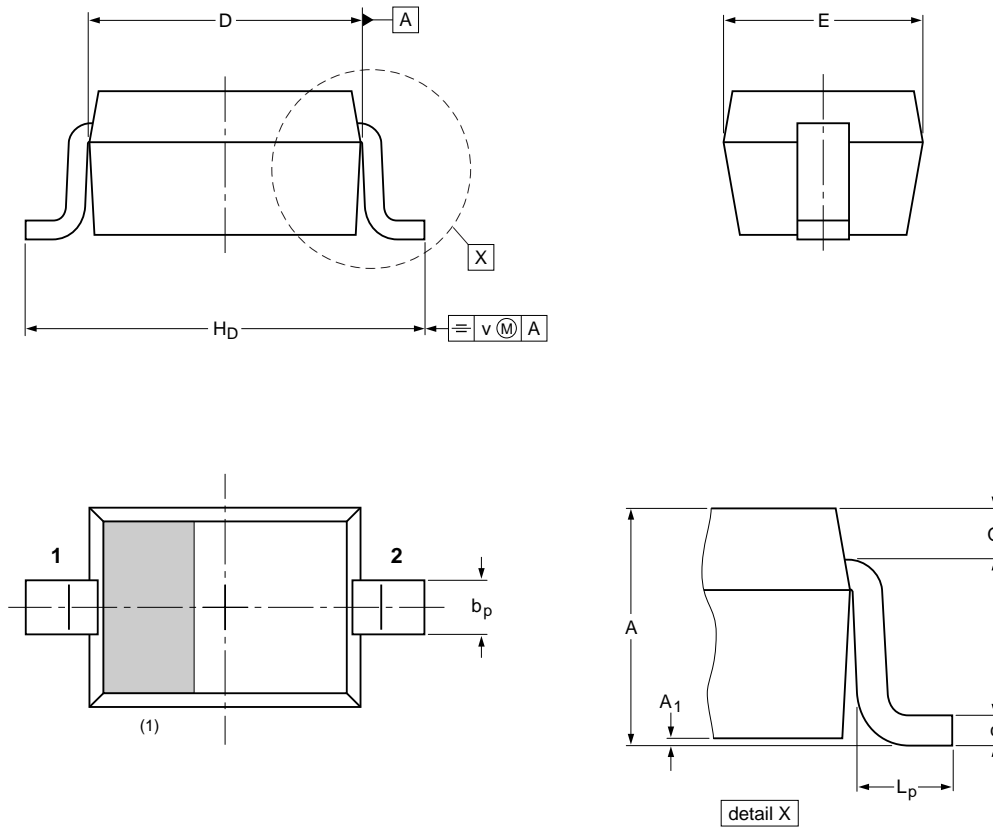
UHF variable capacitance diode

BB135

PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ max | b _p | c | D | E | H _D | L _p | 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 | | 03-12-17 06-03-16 |

UHF variable capacitance diode

BB135

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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UHF variable capacitance diode

BB135

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Contact information

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

For sales offices addresses send e-mail to: salesaddresses@nxp.com

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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.