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Should be replaced with:

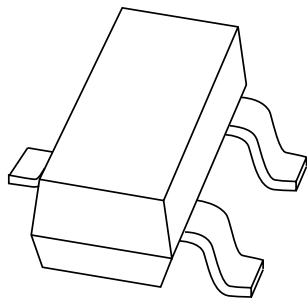
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Kind regards,

Team Nexperia

# DATA SHEET



## **BAS17** Low-voltage stabistor

Product data sheet  
Supersedes data of 1999 May 31

2003 Mar 25

# Low-voltage stabistor

# BAS17

## FEATURES

- Low-voltage stabilization
- Forward voltage range: 580 to 960 mV
- Total power dissipation: max. 250 mW.

## APPLICATIONS

- Low-voltage stabilization e.g.
  - Bias stabilizer in class-B output stages
  - Clipping
  - Clamping
  - Meter protection.

## DESCRIPTION

Low-voltage stabilization diode in a small SOT23 plastic package.

## MARKING

| TYPE NUMBER | MARKING CODE <sup>(1)</sup> |
|-------------|-----------------------------|
| BAS17       | *A9                         |

## Note

1. \* = p : Made in Hong Kong.  
 \* = t : Made in Malaysia.  
 \* = W : Made in China.

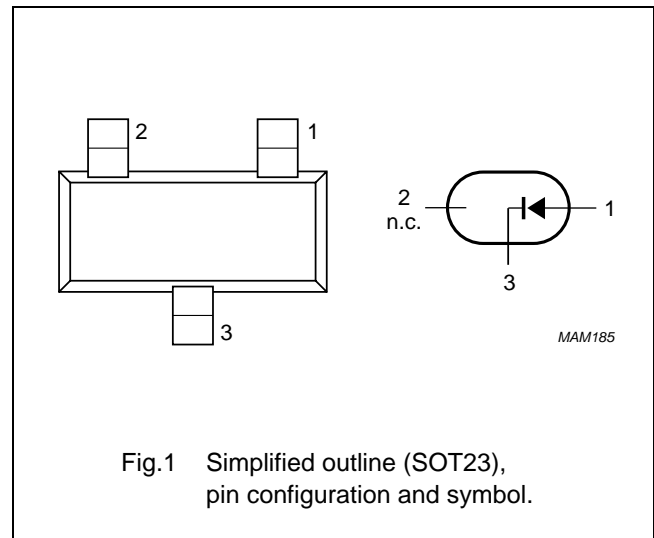
## LIMITING VALUES

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

| SYMBOL    | PARAMETER                  | CONDITIONS               | MIN. | MAX. | UNIT |
|-----------|----------------------------|--------------------------|------|------|------|
| $V_R$     | continuous reverse voltage |                          | –    | 5    | V    |
| $I_F$     | continuous forward current |                          | –    | 200  | mA   |
| $P_{tot}$ | total power dissipation    | $T_{amb} = 25\text{ °C}$ | –    | 250  | mW   |
| $T_{stg}$ | storage temperature        |                          | –65  | +150 | °C   |
| $T_j$     | junction temperature       |                          | –    | 150  | °C   |

## PINNING

| PIN | DESCRIPTION   |
|-----|---------------|
| 1   | anode         |
| 2   | not connected |
| 3   | cathode       |



## Low-voltage stabistor

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**ELECTRICAL CHARACTERISTICS**

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

| SYMBOL    | PARAMETER               | CONDITIONS                           | MIN. | TYP. | MAX. | UNIT          |
|-----------|-------------------------|--------------------------------------|------|------|------|---------------|
| $V_F$     | forward voltage         | see Fig.2                            |      |      |      |               |
|           |                         | $I_F = 0.1\text{ mA}$                | 580  | –    | 660  | mV            |
|           |                         | $I_F = 1\text{ mA}$                  | 665  | –    | 745  | mV            |
|           |                         | $I_F = 5\text{ mA}$                  | 725  | –    | 805  | mV            |
|           |                         | $I_F = 10\text{ mA}$                 | 750  | –    | 830  | mV            |
|           |                         | $I_F = 100\text{ mA}$                | 870  | –    | 960  | mV            |
| $I_R$     | reverse current         | $V_R = 4\text{ V}$                   | –    | –    | 5    | $\mu\text{A}$ |
| $r_{dif}$ | differential resistance | $I_F = 0.5\text{ mA}$                | –    | 120  | –    | $\Omega$      |
|           |                         | $I_F = 2\text{ mA}$                  | –    | 80   | –    | $\Omega$      |
| $S_F$     | temperature coefficient | $I_F = 1\text{ mA}$                  | –    | –1.8 | –    | mV/K          |
| $C_d$     | diode capacitance       | $V_R = 0\text{ V}; f = 1\text{ MHz}$ | –    | –    | 140  | pF            |

**THERMAL CHARACTERISTICS**

| SYMBOL         | PARAMETER                                     | CONDITIONS | VALUE | UNIT |
|----------------|---|------------|-------|------|
| $R_{th\ j-tp}$ | thermal resistance from junction to tie-point |            | 330   | K/W  |
| $R_{th\ j-a}$  | thermal resistance from junction to ambient   | note 1     | 500   | K/W  |

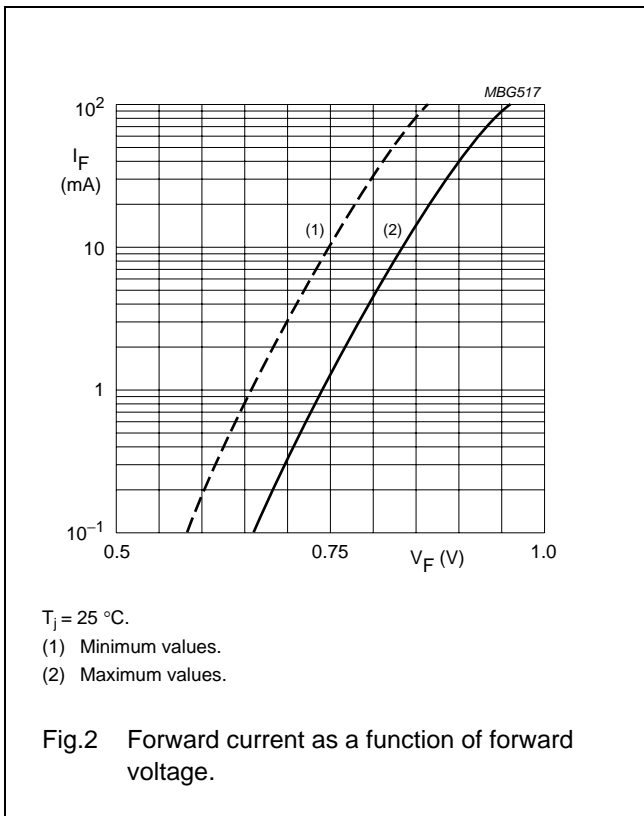
**Note**

1. Device mounted on a FR4 printed-circuit board.

Low-voltage stabistor

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GRAPHICAL DATA



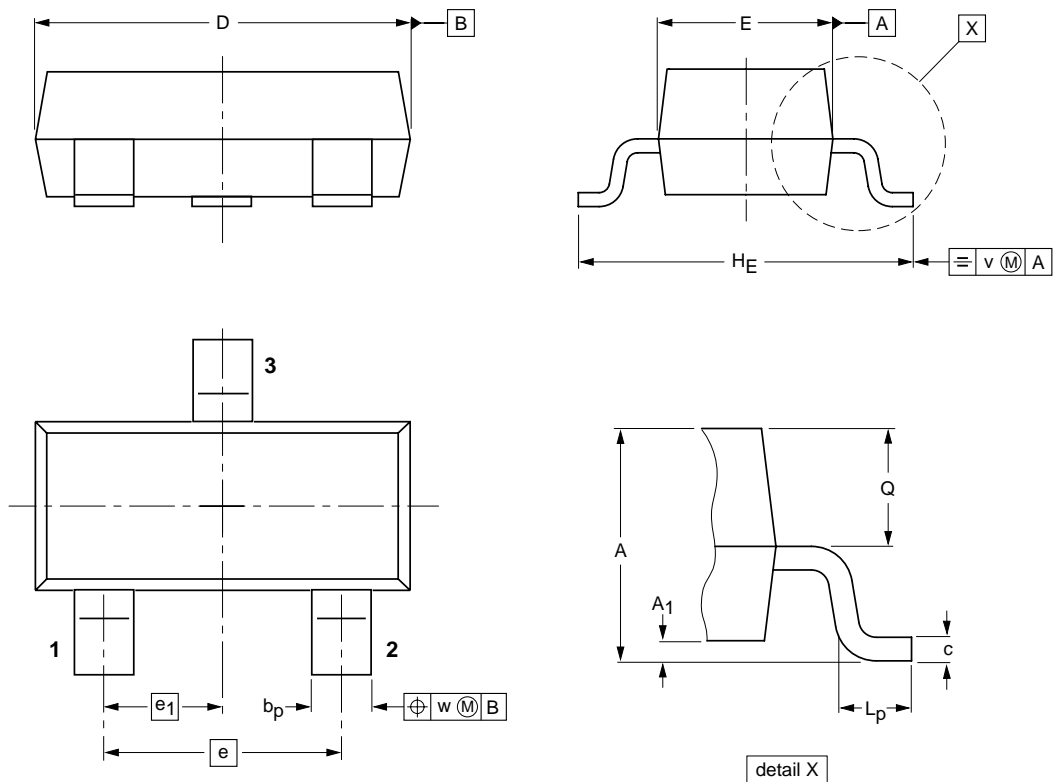
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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

| UNIT | A          | A <sub>1</sub><br>max. | b <sub>p</sub> | c            | D          | E          | e   | e <sub>1</sub> | H <sub>E</sub> | L <sub>p</sub> | Q            | v   | w   |
|------|------------|------------------------|----------------|--------------|------------|------------|-----|----------------|----------------|----------------|--------------|-----|-----|
| mm   | 1.1<br>0.9 | 0.1                    | 0.48<br>0.38   | 0.15<br>0.09 | 3.0<br>2.8 | 1.4<br>1.2 | 1.9 | 0.95           | 2.5<br>2.1     | 0.45<br>0.15   | 0.55<br>0.45 | 0.2 | 0.1 |

| OUTLINE VERSION | REFERENCES |          |      |  | EUROPEAN PROJECTION | ISSUE DATE                      |
|-----------------|------------|----------|------|--|---------------------|---------------------------------|
|                 | IEC        | JEDEC    | EIAJ |  |                     |                                 |
| SOT23           |            | TO-236AB |      |  |                     | <del>97-02-28</del><br>99-09-13 |

## Low-voltage stabistor

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## 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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## **Contact information**

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

For sales offices addresses send e-mail to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

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