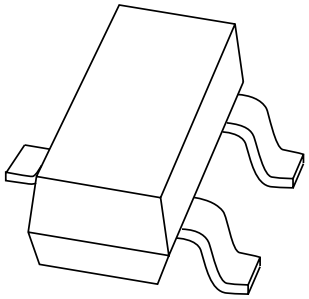
# DATA SHEET



# 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(1) |
|---|---|
| BAS17 | ∗A9 |

**Note**

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

## PINNING

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

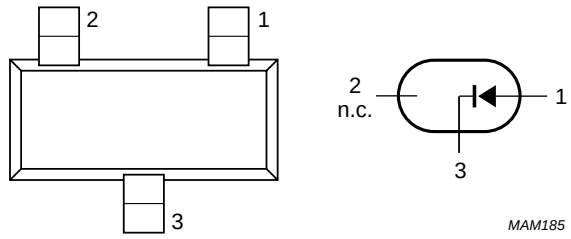



Fig.1 Simplified outline (SOT23), pin configuration and symbol.

## 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 °C | – | 250 | mW |
| $T_{stg}$ | storage temperature | | −65 | +150 | °C |
| $T_j$ | junction temperature | | – | 150 | °C |

## ELECTRICAL CHARACTERISTICS

$T_j$ = 25 °C unless otherwise specified.

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

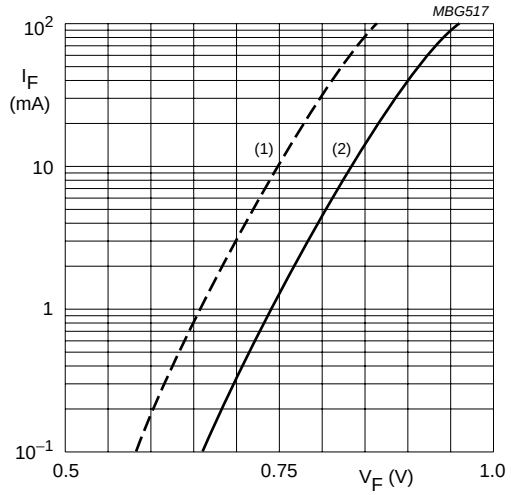
## THERMAL CHARACTERISTICS

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

**Note**

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

## GRAPHICAL DATA




$T_j$ = 25 °C.

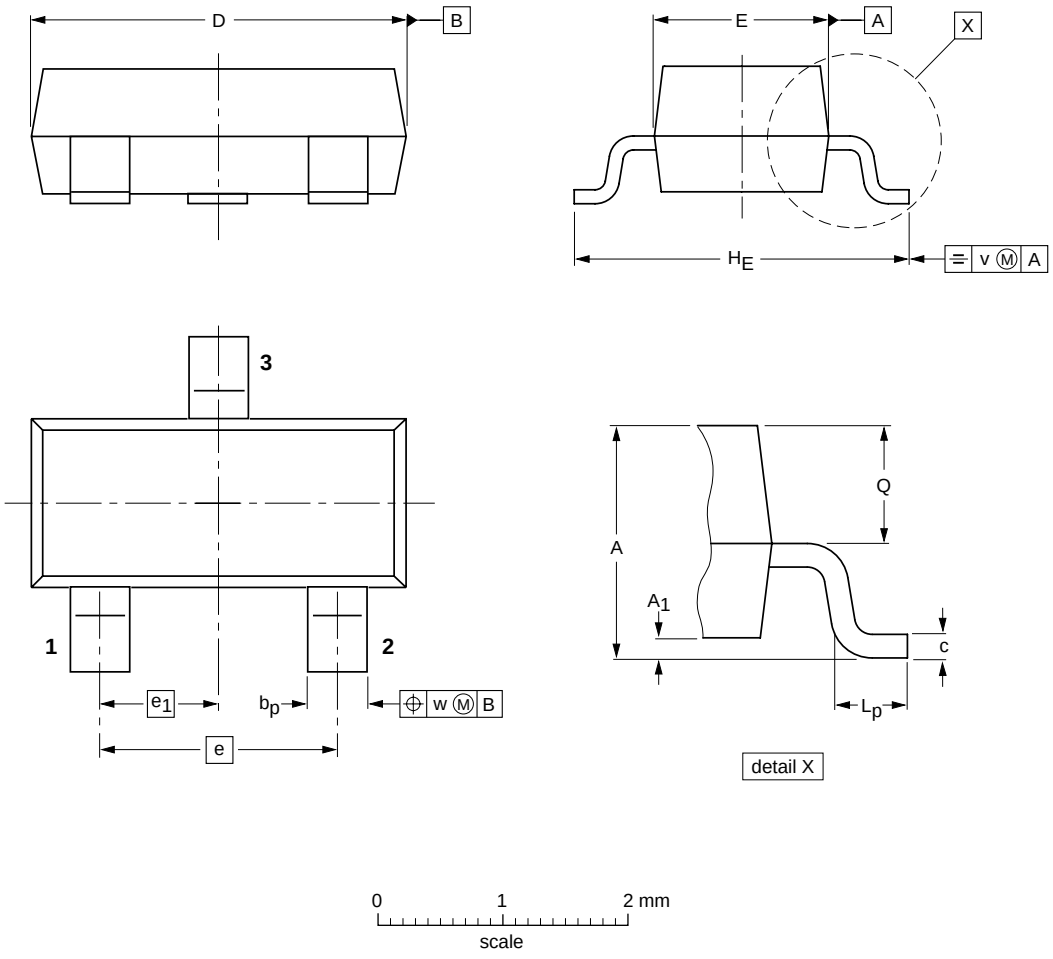
(1) Minimum values.

(2) Maximum values.

Fig.2 Forward current as a function of forward voltage.

## 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<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 | | | | ~~97-02-28~~<br>99-09-13 |

**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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