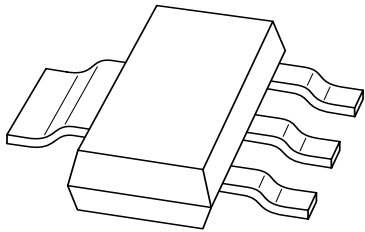


# DATA SHEET



**BF723**

PNP high-voltage transistor

Product data sheet  
Supersedes data of 1996 Dec 05

1999 Apr 21

## PNP high-voltage transistor

BF723

## FEATURES

- Low feedback capacitance.

## APPLICATIONS

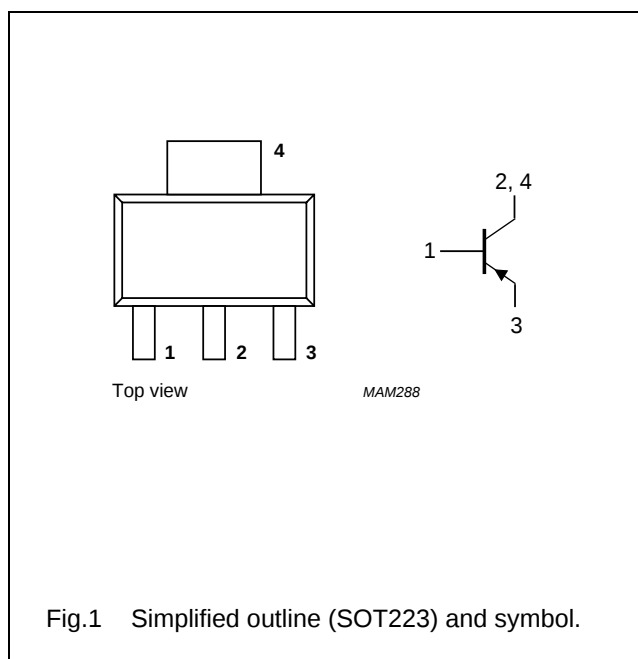
- Class-B video output stages of colour television receivers
- General purpose high voltage circuits.

## DESCRIPTION

PNP transistor in a SOT223 plastic package.  
NPN complement: BF722.

## PINNING

| PIN  | DESCRIPTION |
|------|-------------|
| 1    | base        |
| 2, 4 | collector   |
| 3    | emitter     |



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

| SYMBOL    | PARAMETER                     | CONDITIONS                           | MIN. | MAX. | UNIT |
|-----------|-------------------------------|--------------------------------------|------|------|------|
| $V_{CBO}$ | collector-base voltage        | open emitter                         | —    | –250 | V    |
| $V_{CEO}$ | collector-emitter voltage     | open base                            | —    | –250 | V    |
| $V_{EBO}$ | emitter-base voltage          | open collector                       | —    | –5   | V    |
| $I_C$     | collector current (DC)        |                                      | —    | –100 | mA   |
| $I_{CM}$  | peak collector current        |                                      | —    | –200 | mA   |
| $I_{BM}$  | peak base current             |                                      | —    | –100 | mA   |
| $P_{tot}$ | total power dissipation       | $T_{amb} \leq 25\text{ °C}$ ; note 1 | —    | 1.2  | W    |
| $T_{stg}$ | storage temperature           |                                      | –65  | +150 | °C   |
| $T_j$     | junction temperature          |                                      | —    | 150  | °C   |
| $T_{amb}$ | operating ambient temperature |                                      | –65  | +150 | °C   |

## Note

1. Device mounted on printed-circuit board, single sided copper, tinned, mounting pad for collector 1 cm<sup>2</sup>. For other mounting conditions, see “*Thermal considerations for SOT223 in the General Part of associated Handbook*”.

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## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                                           | CONDITIONS | VALUE | UNIT |
|---------------|-----------------------------------------------------|------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient         | note 1     | 106   | K/W  |
| $R_{th\ j-s}$ | thermal resistance from junction to soldering point | note 1     | 25    | K/W  |

## Note

1. Device mounted on printed-circuit board, single sided copper, tinplated, mounting pad for collector 1 cm<sup>2</sup>.  
For other mounting conditions, see *"Thermal considerations for SOT223 in the General Part of associated Handbook"*.

## CHARACTERISTICS

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

| SYMBOL      | PARAMETER                            | CONDITIONS                                                       | MIN. | MAX. | UNIT |
|-------------|--------------------------------------|------------------------------------------------------------------|------|------|------|
| $I_{CBO}$   | collector cut-off current            | $I_E = 0; V_{CB} = -200\text{ V}$                                | –    | –10  | nA   |
|             |                                      | $I_E = 0; V_{CB} = -200\text{ V}; T_j = 150\text{ °C}$           | –    | –10  | μA   |
| $I_{EBO}$   | emitter cut-off current              | $I_C = 0; V_{EB} = -5\text{ V}$                                  | –    | –50  | nA   |
| $h_{FE}$    | DC current gain                      | $I_C = -25\text{ mA}; V_{CE} = -20\text{ V}$                     | –50  | –    |      |
| $V_{CEsat}$ | collector-emitter saturation voltage | $I_C = -30\text{ mA}; I_B = -5\text{ mA}$                        | –    | –0.6 | V    |
| $C_{re}$    | feedback capacitance                 | $I_C = I_c = 0; V_{CE} = -30\text{ V}; f = 1\text{ MHz}$         | –    | 2.5  | pF   |
| $f_T$       | transition frequency                 | $I_C = -10\text{ mA}; V_{CE} = -10\text{ V}; f = 100\text{ MHz}$ | 60   | –    | MHz  |

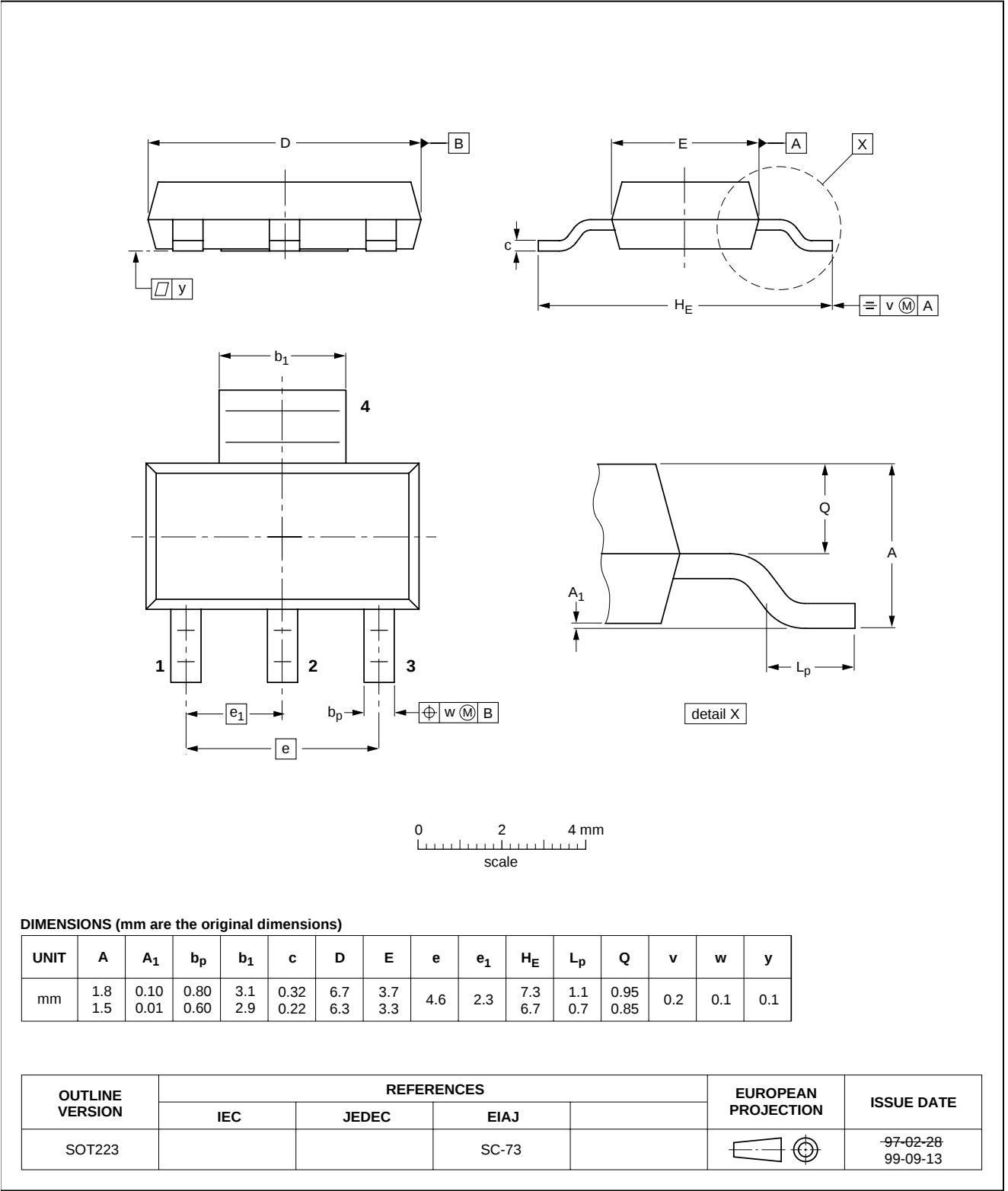
PNP high-voltage transistor

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PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 4 leads

SOT223



## PNP high-voltage transistor

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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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