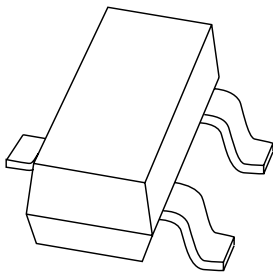


# DATA SHEET



## **BSS63** PNP high-voltage transistor

Product data sheet  
Supersedes data of 1999 Apr 15

2004 Jan 16

## PNP high-voltage transistor

## BSS63

## FEATURES

- Low current (max. 100 mA)
- High voltage (max. 100 V).

## APPLICATIONS

- High-voltage general purpose
- Switching applications.

## DESCRIPTION

PNP high-voltage transistor in a SOT23 plastic package.  
NPN complement: BSS64.

## MARKING

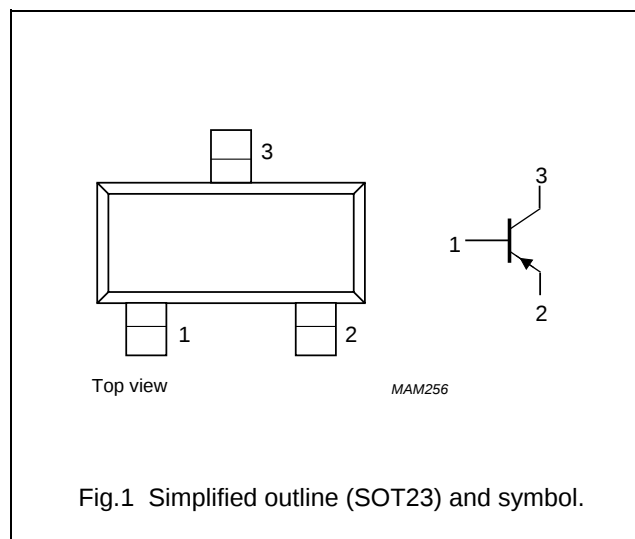
| TYPE NUMBER | MARKING CODE <sup>(1)</sup> |
|-------------|-----------------------------|
| BSS63       | BM*                         |

## Note

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

## PINNING

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



## ORDERING INFORMATION

| TYPE NUMBER | PACKAGE |                                          |         |
|-------------|---------|------------------------------------------|---------|
|             | NAME    | DESCRIPTION                              | VERSION |
| BSS63       | –       | plastic surface mounted package; 3 leads | SOT23   |

## PNP high-voltage transistor

## BSS63

## LIMITING VALUES

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

| SYMBOL    | PARAMETER                     | CONDITIONS                  | MIN. | MAX. | UNIT |
|-----------|-------------------------------|-----------------------------|------|------|------|
| $V_{CBO}$ | collector-base voltage        | open emitter                | –    | –110 | V    |
| $V_{CEO}$ | collector-emitter voltage     | open base                   | –    | –100 | V    |
| $V_{EBO}$ | emitter-base voltage          | open collector              | –    | –6   | V    |
| $I_C$     | collector current (DC)        |                             | –    | –100 | mA   |
| $I_{CM}$  | peak collector current        |                             | –    | –100 | mA   |
| $I_{BM}$  | peak base current             |                             | –    | –100 | mA   |
| $P_{tot}$ | total power dissipation       | $T_{amb} \leq 25\text{ °C}$ | –    | 250  | mW   |
| $T_{stg}$ | storage temperature           |                             | –65  | +150 | °C   |
| $T_j$     | junction temperature          |                             | –    | 150  | °C   |
| $T_{amb}$ | operating ambient temperature |                             | –65  | +150 | °C   |

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                                   | CONDITIONS | VALUE | UNIT |
|---------------|---------------------------------------------|------------|-------|------|
| $R_{th(j-a)}$ | thermal resistance from junction to ambient | note 1     | 500   | K/W  |

## Note

1. Transistor mounted on an FR4 printed-circuit board.

## CHARACTERISTICS

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

| SYMBOL      | PARAMETER                            | CONDITIONS                                                      | MIN. | TYP. | MAX. | UNIT |
|-------------|--------------------------------------|-----------------------------------------------------------------|------|------|------|------|
| $I_{CBO}$   | collector cut-off current            | $I_E = 0; V_{CB} = -90\text{ V}$                                | –    | –    | –100 | nA   |
|             |                                      | $I_E = 0; V_{CB} = -90\text{ V}; T_j = 150\text{ °C}$           | –    | –    | –50  | μA   |
| $I_{EBO}$   | emitter cut-off current              | $I_C = 0; V_{EB} = -6\text{ V}$                                 | –    | –    | –100 | nA   |
| $h_{FE}$    | DC current gain                      | $I_C = -10\text{ mA}; V_{CE} = -1\text{ V}$                     | 30   | –    | –    |      |
|             |                                      | $I_C = -25\text{ mA}; V_{CE} = -1\text{ V}$                     | 30   | –    | –    |      |
| $V_{CEsat}$ | collector-emitter saturation voltage | $I_C = -25\text{ mA}; I_B = -2.5\text{ mA}$                     | –    | –    | –250 | mV   |
| $V_{BEsat}$ | base-emitter saturation voltage      | $I_C = -25\text{ mA}; I_B = -2.5\text{ mA}$                     | –    | –    | –900 | mV   |
| $C_c$       | collector capacitance                | $I_E = i_e = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$        | –    | 3    | –    | pF   |
| $f_T$       | transition frequency                 | $I_C = -25\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$ | 50   | 85   | –    | MHz  |

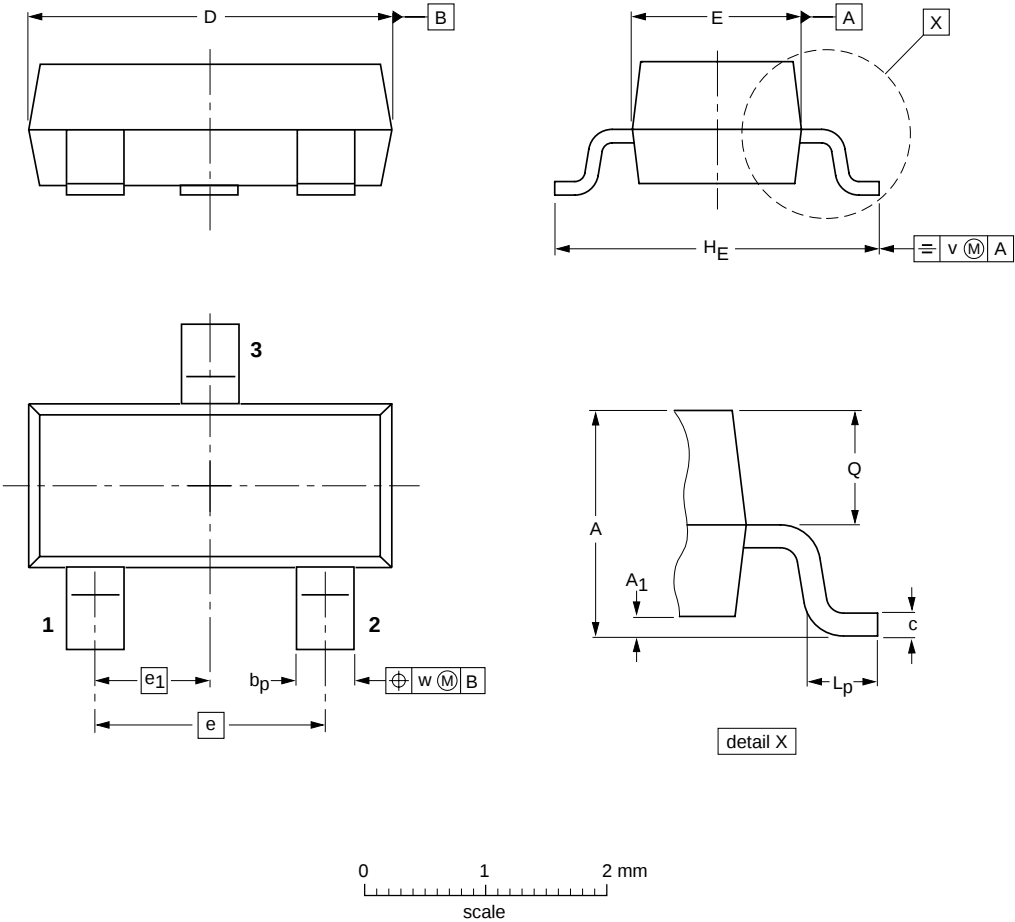
PNP high-voltage transistor

BSS63

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<br>VERSION | REFERENCES |          |       |  | EUROPEAN<br>PROJECTION | ISSUE DATE           |
|--------------------|------------|----------|-------|--|------------------------|----------------------|
|                    | IEC        | JEDEC    | JEITA |  |                        |                      |
| SOT23              |            | TO-236AB |       |  |                        | 04-11-04<br>06-03-16 |