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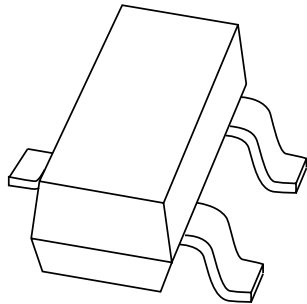
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Kind regards,

Team Nexperia

DATA SHEET



BSS64 NPN high voltage transistor

Product data sheet
Supersedes data of 2004 Jan 16

2004 Mar 12



NPN high voltage transistor

BSS64

FEATURES

- Low current (max. 100 mA)
- High voltage (max. 80 V).

APPLICATIONS

- High-voltage general purpose and switching applications
- Intended for thick and thin-film circuit applications.

DESCRIPTION

NPN transistor in a SOT23 plastic package.
PNP complement: BSS63.

MARKING

| TYPE NUMBER | MARKING CODE ⁽¹⁾ |
|-------------|-----------------------------|
| BSS64 | 60* or AM |

Note

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

PINNING

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

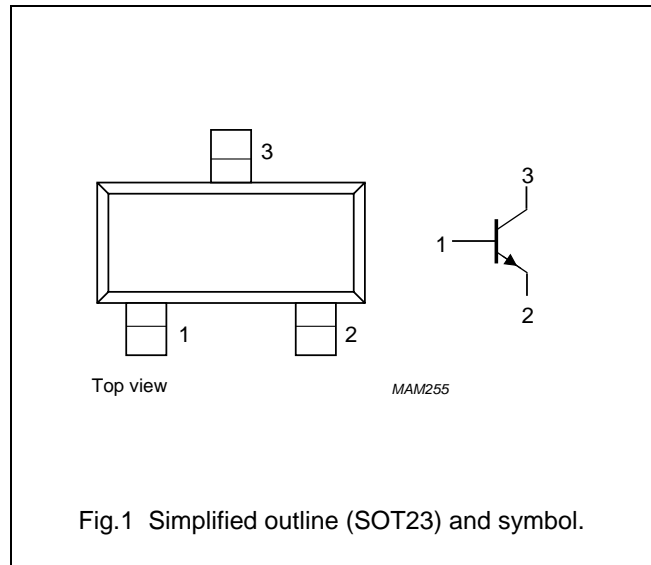


Fig.1 Simplified outline (SOT23) and symbol.

ORDERING INFORMATION

| TYPE NUMBER | PACKAGE | | |
|-------------|---------|--|---------|
| | NAME | DESCRIPTION | VERSION |
| BSS64 | – | plastic surface mounted package; 3 leads | SOT23 |

LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|------------------|-------------------------------|--------------------------|------|------|------|
| V _{CB0} | collector-base voltage | open emitter | – | 120 | V |
| V _{CE0} | collector-emitter voltage | open base | – | 80 | V |
| V _{EB0} | emitter-base voltage | open collector | – | 5 | V |
| I _C | collector current (DC) | | – | 100 | mA |
| I _{CM} | peak collector current | | – | 250 | mA |
| I _{BM} | peak base current | | – | 100 | 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 |
| T _{amb} | operating ambient temperature | | –65 | +150 | °C |

NPN high voltage transistor

BSS64

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

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|-------------|--------------------------------------|--|------|------|------|---------------|
| I_{CBO} | collector-base cut-off current | $I_E = 0; V_{CB} = 90\text{ V}$ | – | – | 100 | nA |
| | | $I_E = 0; V_{CB} = 90\text{ V}; T_j = 150\text{ }^\circ\text{C}$ | – | – | 50 | μA |
| I_{EBO} | emitter-base cut-off current | $I_C = 0; V_{EB} = 5\text{ V}$ | – | 0.5 | 200 | nA |
| h_{FE} | DC current gain | $I_C = 1\text{ mA}; V_{CE} = 1\text{ V}$ | – | 60 | – | |
| | | $I_C = 10\text{ mA}; V_{CE} = 1\text{ V}$ | 20 | 80 | – | |
| | | $I_C = 20\text{ mA}; V_{CE} = 1\text{ V}$ | – | 55 | – | |
| V_{CEsat} | collector-emitter saturation voltage | $I_C = 4\text{ mA}; I_B = 400\text{ }\mu\text{A}$ | – | – | 150 | mV |
| | | $I_C = 50\text{ mA}; I_B = 15\text{ mA}$ | – | – | 200 | 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 | $I_C = 4\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$ | 60 | 100 | – | MHz |

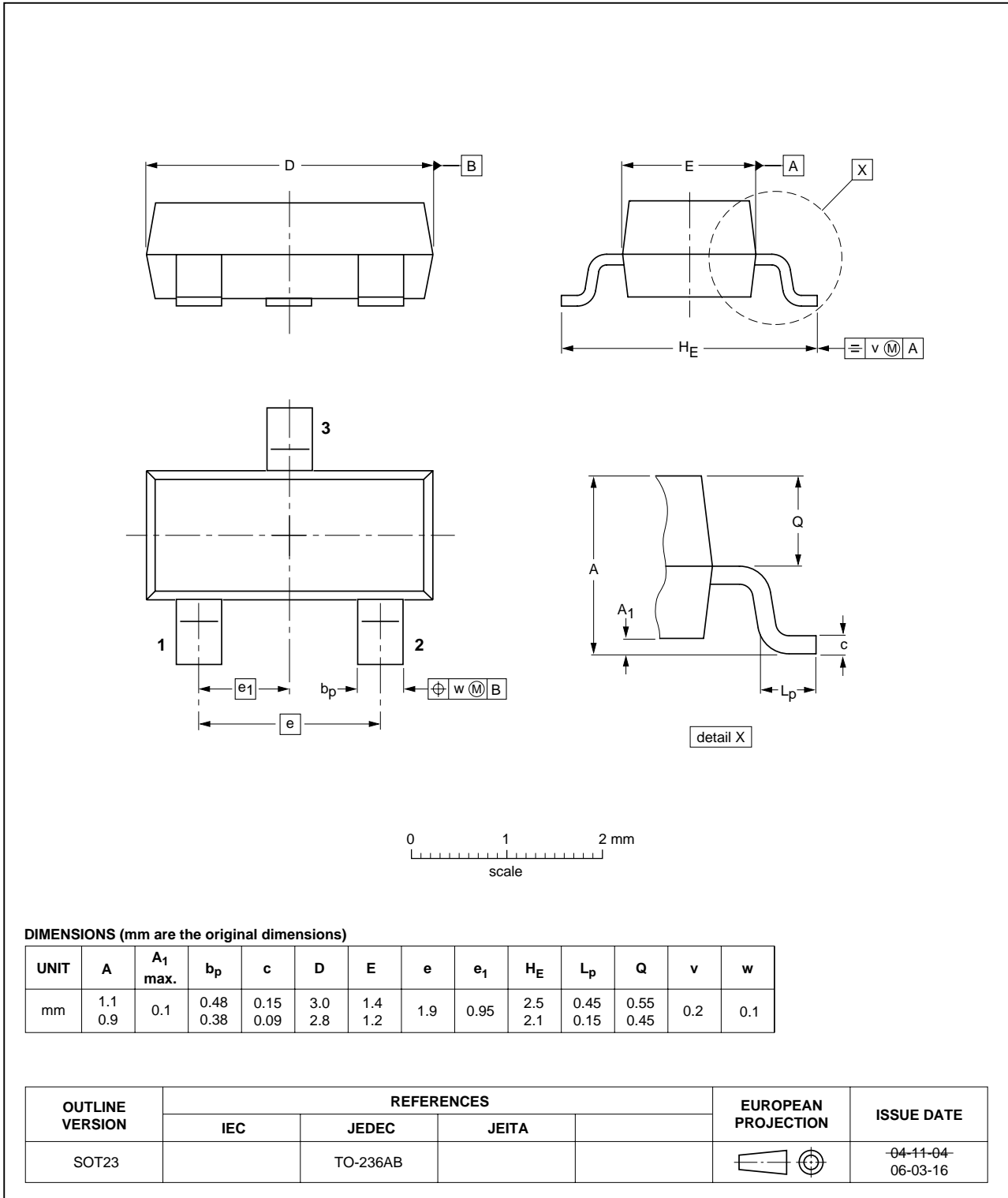
NPN high voltage transistor

BSS64

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



NPN high voltage transistor

BSS64

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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NXP Semiconductors

Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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

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