

## Important notice

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Should be replaced with:

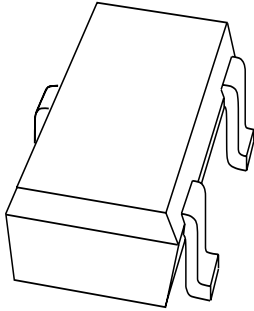
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via **[salesaddresses@nexperia.com](mailto:salesaddresses@nexperia.com)**). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

# DATA SHEET



## **PMSTA92** PNP high-voltage transistor

Product data sheet  
Supersedes data of 1999 Jun 01

2001 Feb 20

## PNP high-voltage transistor

## PMSTA92

## FEATURES

- S-mini package
- High voltage.

## APPLICATIONS

- Primarily intended for use in telephony and professional communication equipment.

## DESCRIPTION

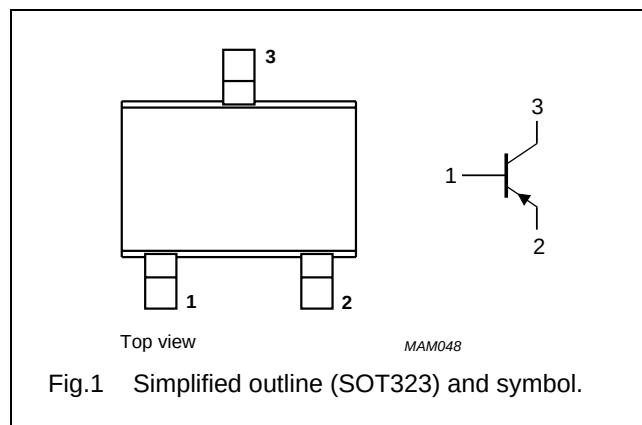
PNP transistor in a microminiature (SMD) plastic package intended for surface mounted applications.

## MARKING

| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| PMSTA92     | tD2          |

## PINNING

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



## 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                         | –    | –300 | V    |
| $V_{CEO}$ | collector-emitter voltage     | open base                            | –    | –300 | 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 | –    | 200  | mW   |
| $T_{stg}$ | storage temperature           |                                      | –65  | +150 | °C   |
| $T_j$     | junction temperature          |                                      | –    | 150  | °C   |
| $T_{amb}$ | operating ambient temperature |                                      | –65  | +150 | °C   |

## Note

1. Refer to SOT323 (SC-70) standard mounting conditions.

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                                   | CONDITIONS          | VALUE | UNIT |
|---------------|---------------------------------------------|---------------------|-------|------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | in free air; note 1 | 625   | K/W  |

## Note

1. Refer to SOT323 (SC-70) standard mounting conditions.

## PNP high-voltage transistor

## PMSTA92

**CHARACTERISTICS**

$T_{amb} = 25\text{ }^{\circ}\text{C}$ ; unless otherwise specified.

| SYMBOL      | PARAMETER                  | CONDITIONS                                                                | MIN. | TYP. | MAX. | UNIT |
|-------------|----------------------------|---------------------------------------------------------------------------|------|------|------|------|
| $I_{CBO}$   | collector cut-off current  | $V_{CB} = -200\text{ V}$ ; $I_E = 0$                                      | –    | –    | –100 | nA   |
| $I_{EBO}$   | emitter cut-off current    | $V_{BE} = -3\text{ V}$ ; $I_C = 0$                                        | –    | –    | –100 | nA   |
| $h_{FE}$    | DC current gain            | $I_C = -1\text{ mA}$ ; $V_{CE} = -10\text{ V}$                            | 40   | –    | –    |      |
|             |                            | $I_C = -10\text{ mA}$ ; $V_{CE} = -10\text{ V}$                           | 40   | –    | –    |      |
|             |                            | $I_C = -30\text{ mA}$ ; $V_{CE} = -10\text{ V}$                           | 30   | –    | –    |      |
| $V_{CEsat}$ | saturation voltage         | $I_C = -20\text{ mA}$ ; $I_B = -2\text{ mA}$ ; note 1                     | –    | –    | –250 | mV   |
| $V_{BEsat}$ | saturation voltage         | $I_C = -20\text{ mA}$ ; $I_B = -2\text{ mA}$ ; note 1                     | –    | –    | –900 | mV   |
| $C_c$       | collector-base capacitance | $V_{CB} = -20\text{ V}$ ; $I_E = i_e = 0$ ; $f = 1\text{ MHz}$            | –    | 1.9  | 3.5  | pF   |
| $C_e$       | emitter-base capacitance   | $V_{EB} = -5\text{ V}$ ; $I_C = i_c = 0$ ; $f = 1\text{ MHz}$             | –    | 20   | –    | pF   |
| $f_T$       | transition frequency       | $V_{CE} = -20\text{ V}$ ; $I_C = -10\text{ mA}$ ;<br>$f = 100\text{ MHz}$ | 50   | –    | –    | MHz  |

**Note**

1. Pulse test:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .

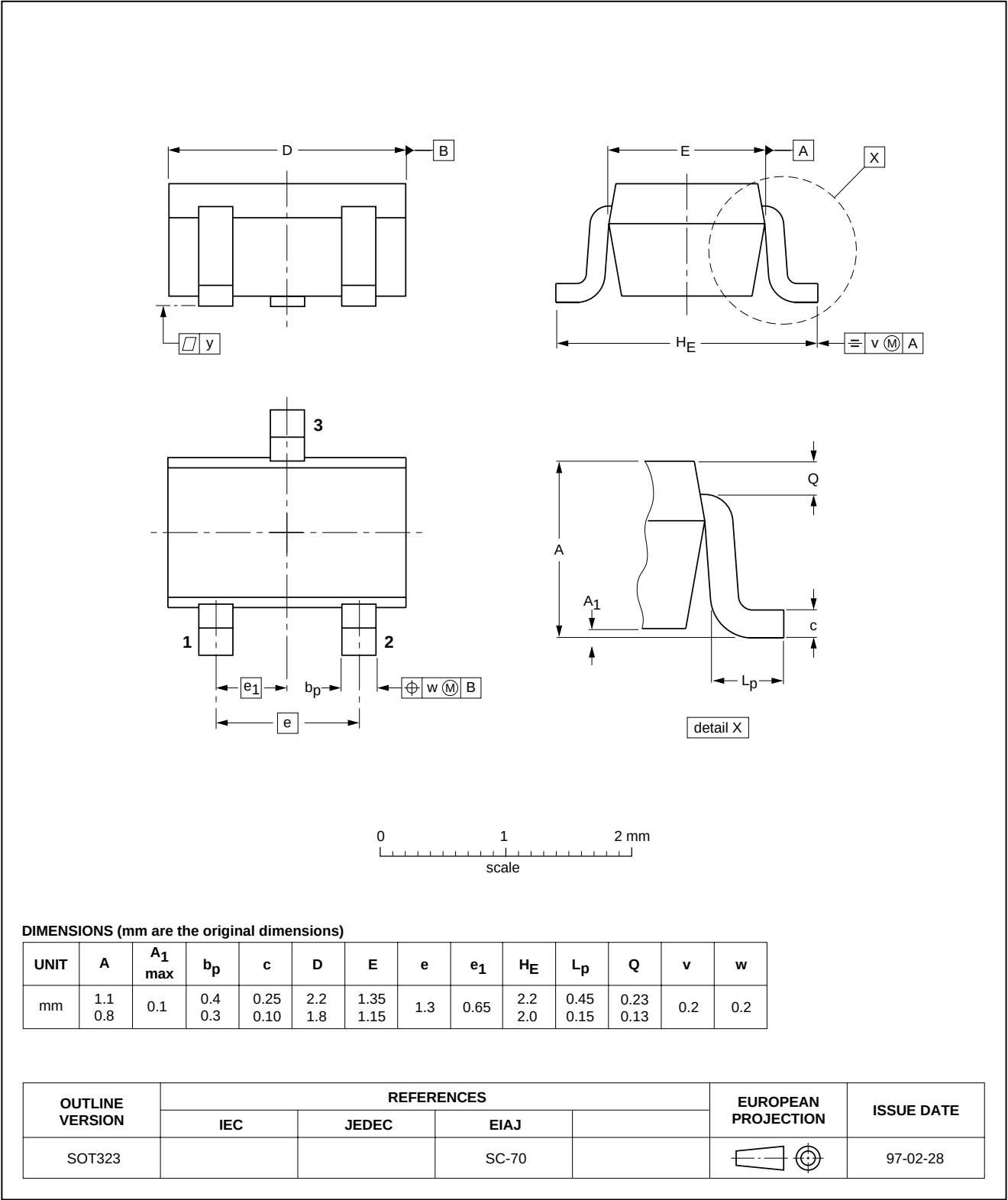
PNP high-voltage transistor

PMSTA92

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



## PNP high-voltage transistor

## PMSTA92

## 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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# ***NXP Semiconductors***

## **Customer notification**

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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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