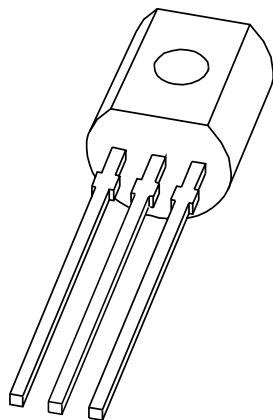


DATA SHEET



MPSA92 PNP high-voltage transistor

Product data sheet
Supersedes data of 2001 Dec 07

2004 Aug 20

PNP high-voltage transistor**MPSA92****FEATURES**

- Low current (max. 100 mA)
- High voltage (max. 300 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP high-voltage transistor in a TO-92; SOT54 plastic package. NPN complement: MPSA42.

PINNING

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

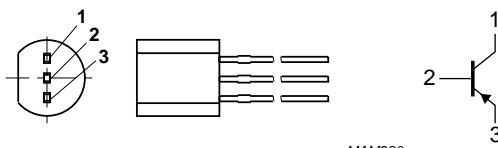


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

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 | $T_{amb} \leq 25^\circ\text{C}$ | – | 625 | mW |
| T_{stg} | storage temperature | | -65 | +150 | °C |
| T_j | junction temperature | | – | 150 | °C |
| T_{amb} | operating ambient temperature | | -65 | +150 | °C |

PNP high-voltage transistor

MPSA92

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------|---|-------------------|--------------|-------------|
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1 | 200 | K/W |

Note

- Transistor mounted on an FR4 printed-circuit board.

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|---------------|--------------------------------------|--|----------------|-------------|-------------|
| I_{CBO} | collector cut-off current | $I_E = 0; V_{CB} = -200\text{ V}$ | — | -250 | nA |
| I_{EBO} | emitter cut-off current | $I_C = 0; V_{BE} = -3\text{ V}$ | — | -100 | nA |
| h_{FE} | DC current gain | $V_{CE} = -10\text{ V}; \text{note 1}$ $I_C = -1\text{ mA}$ $I_C = -10\text{ mA}$ $I_C = -30\text{ mA}$ | 25 40 25 | — — — | |
| V_{CEsat} | collector-emitter saturation voltage | $I_C = -20\text{ mA}; I_B = -2\text{ mA}; \text{note 1}$ | — | -500 | mV |
| V_{BEsat} | base-emitter saturation voltage | $I_C = -20\text{ mA}; I_B = -2\text{ mA}; \text{note 1}$ | — | -900 | mV |
| C_c | collector capacitance | $I_E = i_e = 0; V_{CB} = -20\text{ V}; f = 1\text{ MHz}$ | — | 6 | pF |
| f_T | transition frequency | $I_C = -10\text{ mA}; V_{CE} = -20\text{ V}; f = 100\text{ MHz}$ | 50 | — | MHz |

Note

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

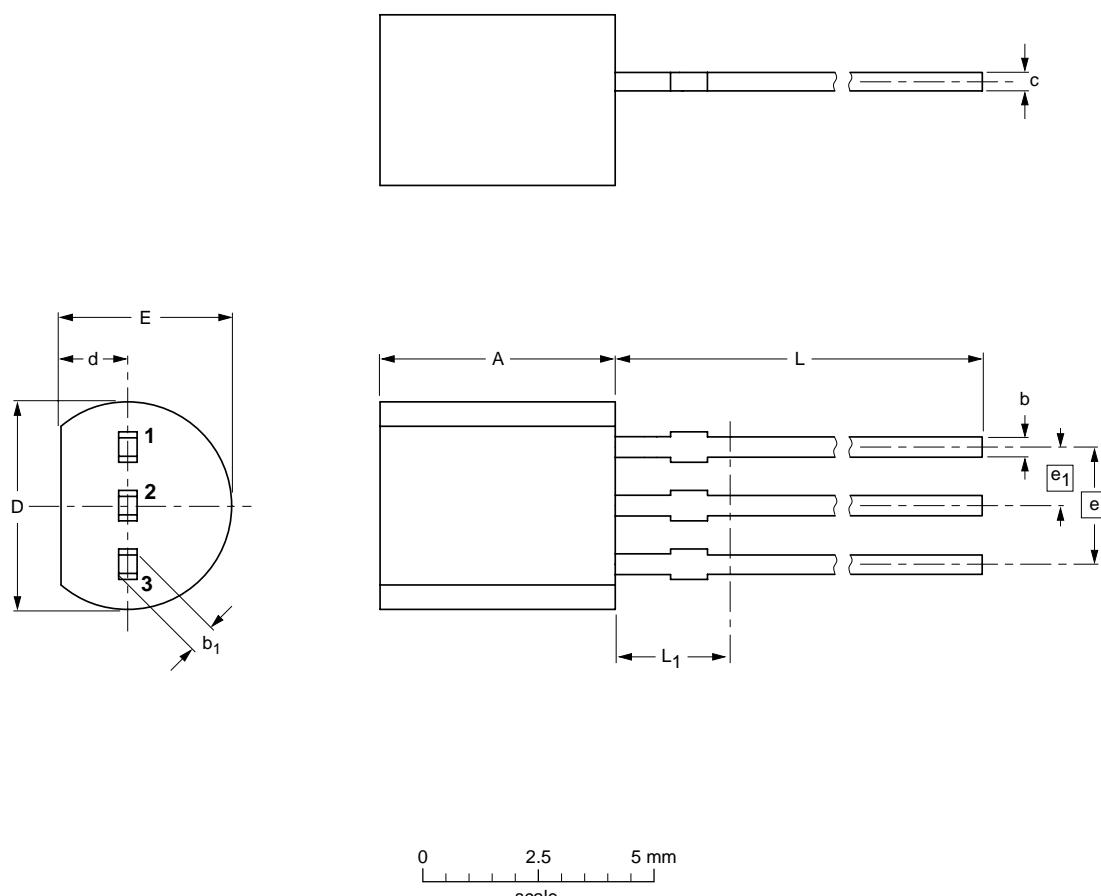
PNP high-voltage transistor

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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54



DIMENSIONS (mm are the original dimensions)

| UNIT | A | b | b_1 | c | D | d | E | e | e_1 | L | $L_1^{(1)}$ max. |
|------|------------|--------------|--------------|--------------|------------|------------|------------|------|-------|--------------|---------------------|
| mm | 5.2 5.0 | 0.48 0.40 | 0.66 0.55 | 0.45 0.38 | 4.8 4.4 | 1.7 1.4 | 4.2 3.6 | 2.54 | 1.27 | 14.5 12.7 | 2.5 |

Note

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|--------------------|------------|-------|--------|--|------------------------|------------------------|
| | IEC | JEDEC | JEITA | | | |
| SOT54 | | TO-92 | SC-43A | | | -04-06-28- 04-11-16 |