

# DATA SHEET



## **MPSA92** PNP high-voltage transistor

Product specification  
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

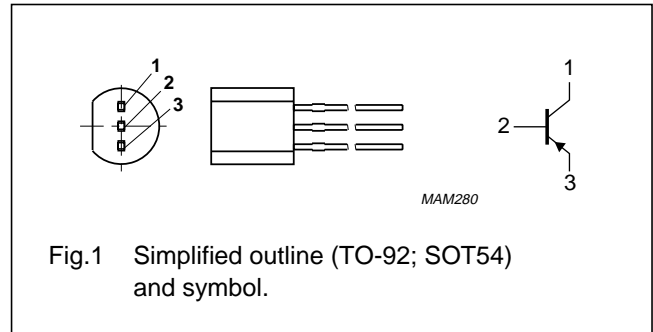
- General purpose switching and amplification.

### DESCRIPTION

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

### PINNING

PIN	DESCRIPTION
1	collector
2	base
3	emitter



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

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## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	200	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.	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	$V_{CE} = -10\text{ V}$ ; 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	$I_C = -20\text{ mA}; I_B = -2\text{ mA}$ ; note 1	–	–500	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -20\text{ mA}; I_B = -2\text{ mA}$ ; 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

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

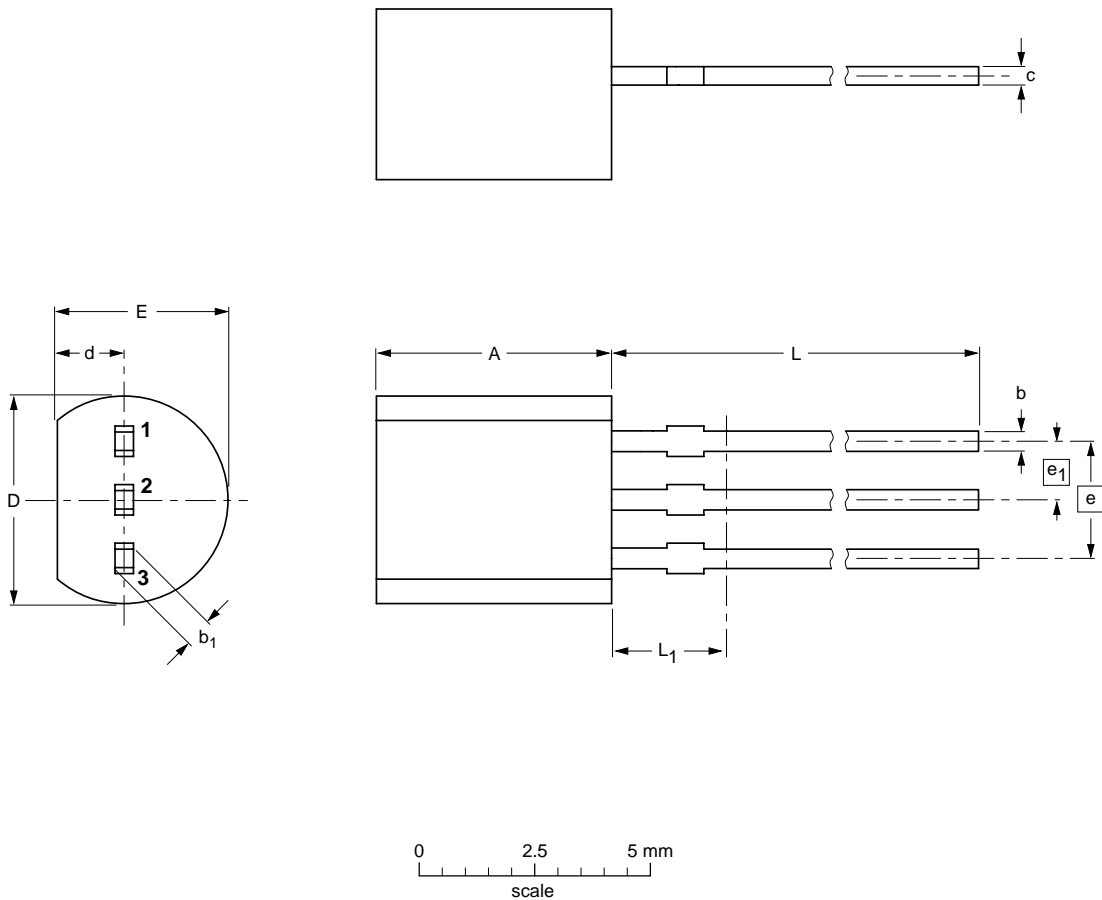
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PACKAGE OUTLINE

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

SOT54



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b <sub>1</sub>	c	D	d	E	e	e <sub>1</sub>	L	L <sub>1</sub> <sup>(1)</sup> 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		<del>97-02-28</del> 04-06-28

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