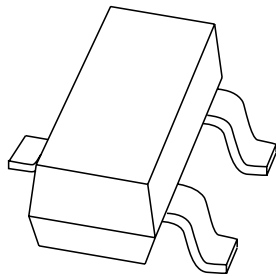


# DATA SHEET



## **MMBTA92** PNP high-voltage transistor

Product specification  
Supersedes data of 2000 Apr 11

2004 Jan 16

# PNP high-voltage transistor

# MMBTA92

### FEATURES

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

### APPLICATIONS

- Telephony
- Professional communication equipment.

### DESCRIPTION

PNP high-voltage transistor in a SOT23 plastic package.  
NPN complement: MMBTA42.

### MARKING

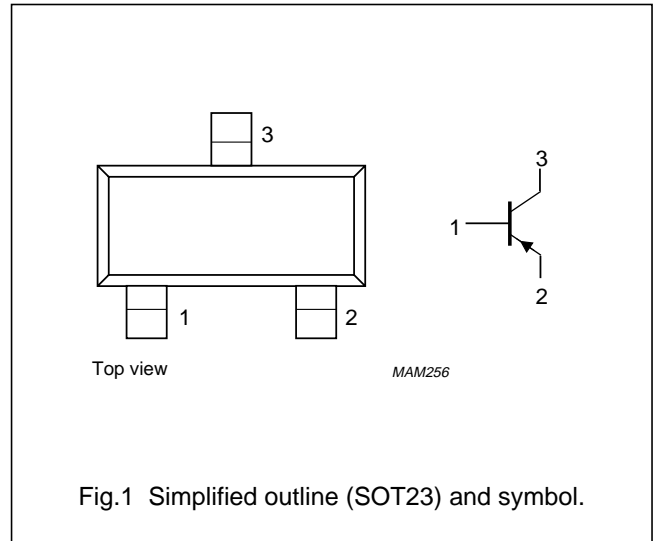
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
MMBTA92	7E*

### 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
MMBTA92	–	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 <sub>CBO</sub>	collector-base voltage	open emitter	–	–300	V
V <sub>CEO</sub>	collector-emitter voltage	open base	–	–300	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	–5	V
I <sub>C</sub>	collector current (DC)		–	–100	mA
I <sub>CM</sub>	peak collector current		–	–200	mA
I <sub>BM</sub>	peak base current		–	–100	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	250	mW
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C
T <sub>amb</sub>	operating ambient temperature		–65	+150	°C

### Note

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

## PNP high-voltage transistor

## MMBTA92

## 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

$T_{amb} = 25\text{ }^{\circ}\text{C}$  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	$I_C = 0; V_{EB} = -3\text{ V}$	–	–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	$I_C = -20\text{ mA}; I_B = -2\text{ mA}$	–	–500	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -20\text{ mA}; I_B = -2\text{ mA}$	–	–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:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .

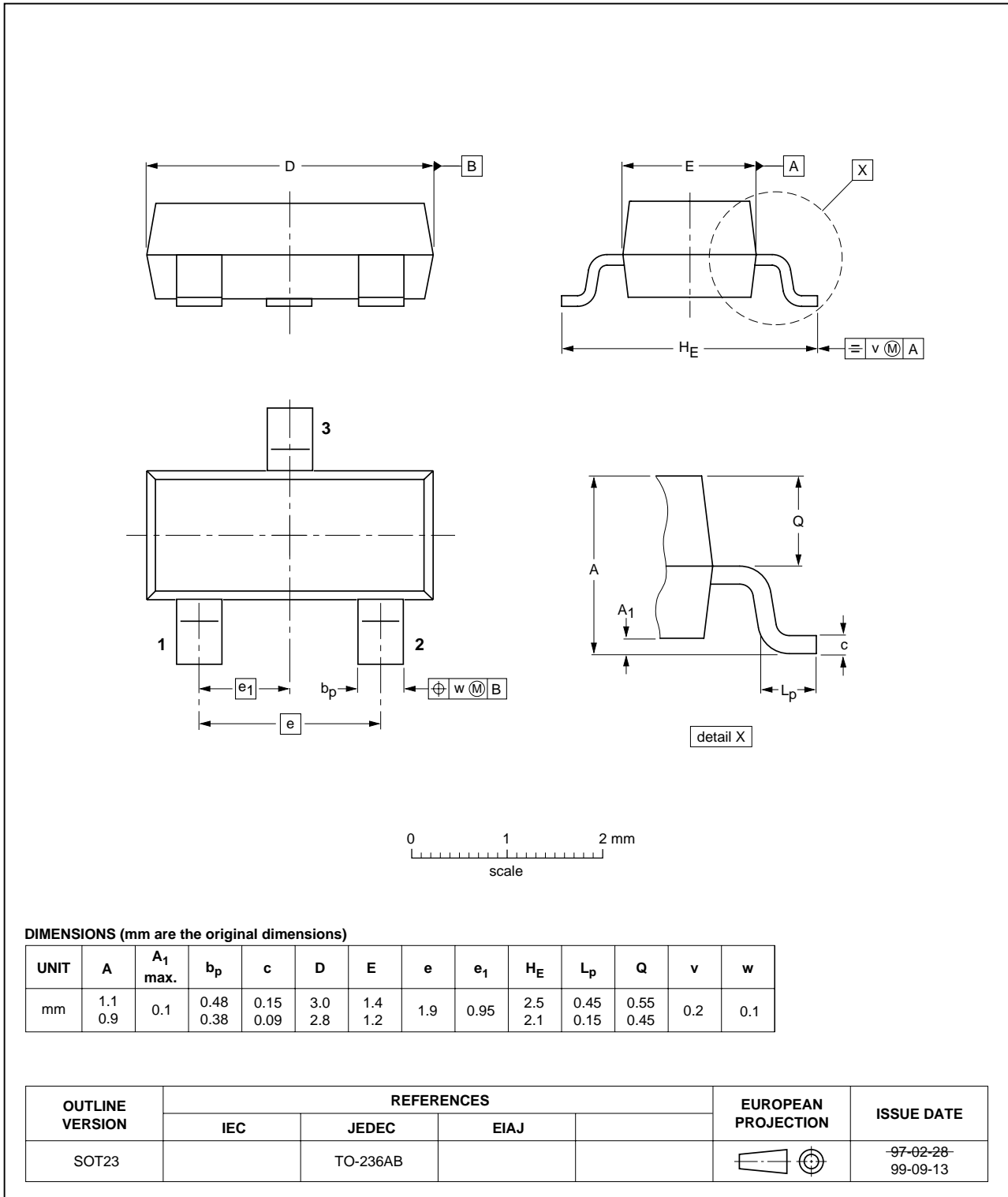
PNP high-voltage transistor

MMBTA92

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



## PNP high-voltage transistor

## MMBTA92

## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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