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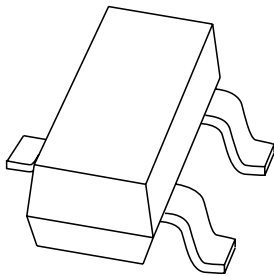
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via **salesaddresses@nexperia.com**). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DATA SHEET



MMBTA92 PNP high-voltage transistor

Product specification
Supersedes data of 2000 Apr 11

2004 Jan 16

PNP high-voltage transistor

MMBT92

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

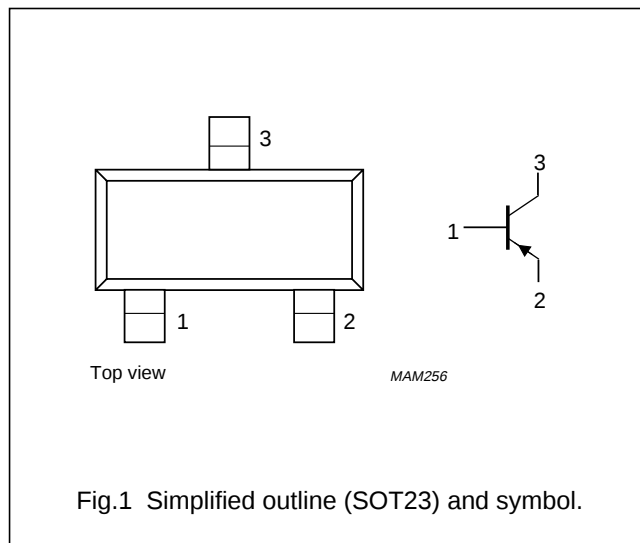
TYPE NUMBER	MARKING CODE ⁽¹⁾
MMBT92	7E*

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
MMBT92	–	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_{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	–	250	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	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: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

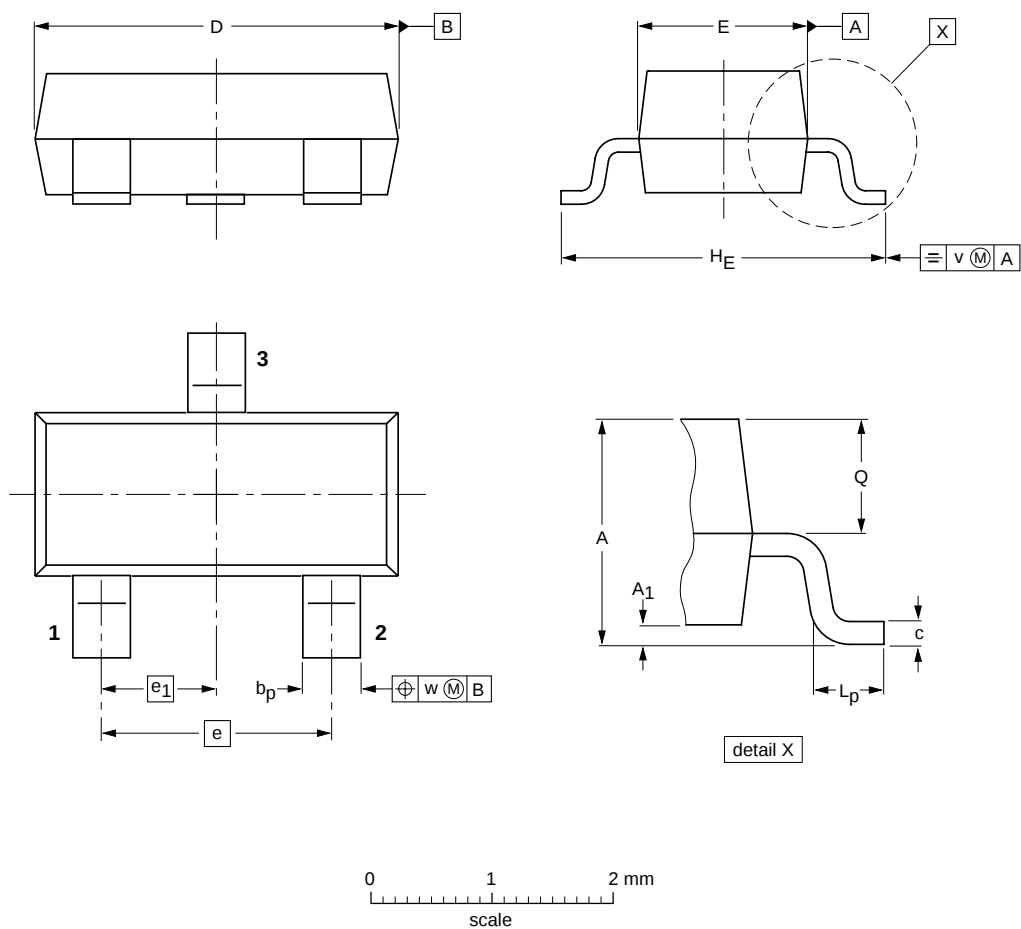
PNP high-voltage transistor

MMBTA92

PACKAGE OUTLINE

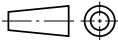
Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23		TO-236AB				97-02-28 99-09-13

PNP high-voltage transistor

MMBTA92

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	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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