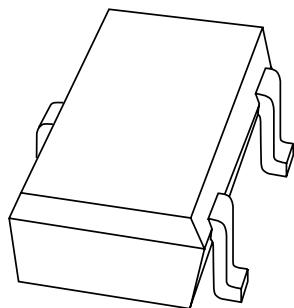


DATA SHEET



PMST5401 PNP high-voltage transistor

Product data sheet
Supersedes data of 1997 Jun 20

1999 Apr 29

PNP high-voltage transistor

PMST5401

FEATURES

- Low current (max. 300 mA)
- High voltage (max. 150 V).

APPLICATIONS

- General purpose
- Telephony.

DESCRIPTION

PNP high-voltage transistor in a SOT323 plastic package.
NPN complements: PMST5550 and PMST5551.

MARKING

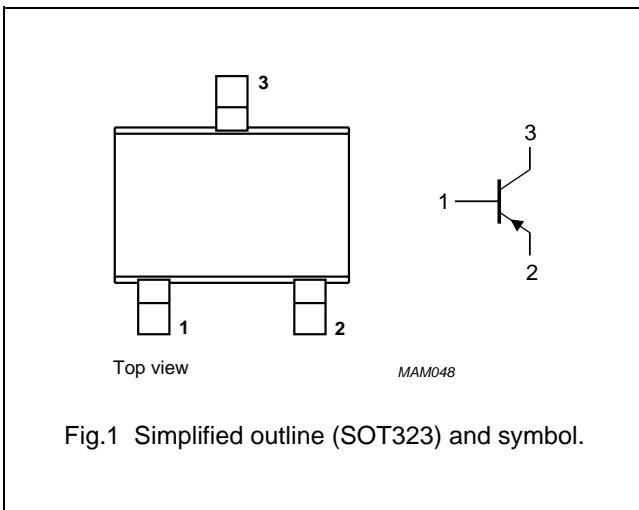
TYPE NUMBER	MARKING CODE ⁽¹⁾
PMST5401	*2L

Note

1. * = - : Made in Hong Kong.
- * = t : Made in Malaysia.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	-160	V
V_{CEO}	collector-emitter voltage	open base	–	-150	V
V_{EBO}	emitter-base voltage	open collector	–	-5	V
I_C	collector current (DC)		–	-300	mA
I_{CM}	peak collector current		–	-600	mA
I_{BM}	peak base current		–	-100	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25^\circ\text{C}$; 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. Transistor mounted on an FR4 printed-circuit board.

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THERMAL CHARACTERISTICS

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

Note

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

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = -120\text{ V}$	—	-50	nA
		$I_E = 0$; $V_{CB} = -120\text{ V}$; $T_j = 150^\circ\text{C}$	—	-50	μA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = -4\text{ V}$	—	-50	nA
h_{FE}	DC current gain	$V_{CE} = -5\text{ V}$; (see Fig.2)			
		$I_C = -1\text{ mA}$	50	—	
		$I_C = -10\text{ mA}$	60	240	
		$I_C = -50\text{ mA}$; note 1	50	—	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -10\text{ mA}$; $I_B = -1\text{ mA}$	—	-200	mV
		$I_C = -50\text{ mA}$; $I_B = -5\text{ mA}$; note 1	—	-500	mV
V_{BEsat}	base-emitter saturation voltage	$I_C = -10\text{ mA}$; $I_B = -1\text{ mA}$	—	-1	V
		$I_C = -50\text{ mA}$; $I_B = -5\text{ mA}$	—	-1	V
C_c	collector capacitance	$I_E = i_e = 0$; $V_{CB} = -10\text{ V}$; $f = 1\text{ MHz}$	—	6	pF
f_T	transition frequency	$I_C = -10\text{ mA}$; $V_{CE} = -10\text{ V}$; $f = 100\text{ MHz}$	100	300	MHz
F	noise figure	$I_C = -200\text{ }\mu\text{A}$; $V_{CE} = -5\text{ V}$; $R_S = 2\text{ k}\Omega$ $f = 10\text{ Hz to }15.7\text{ kHz}$	—	8	dB

Note

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

PNP high-voltage transistor

PMST5401

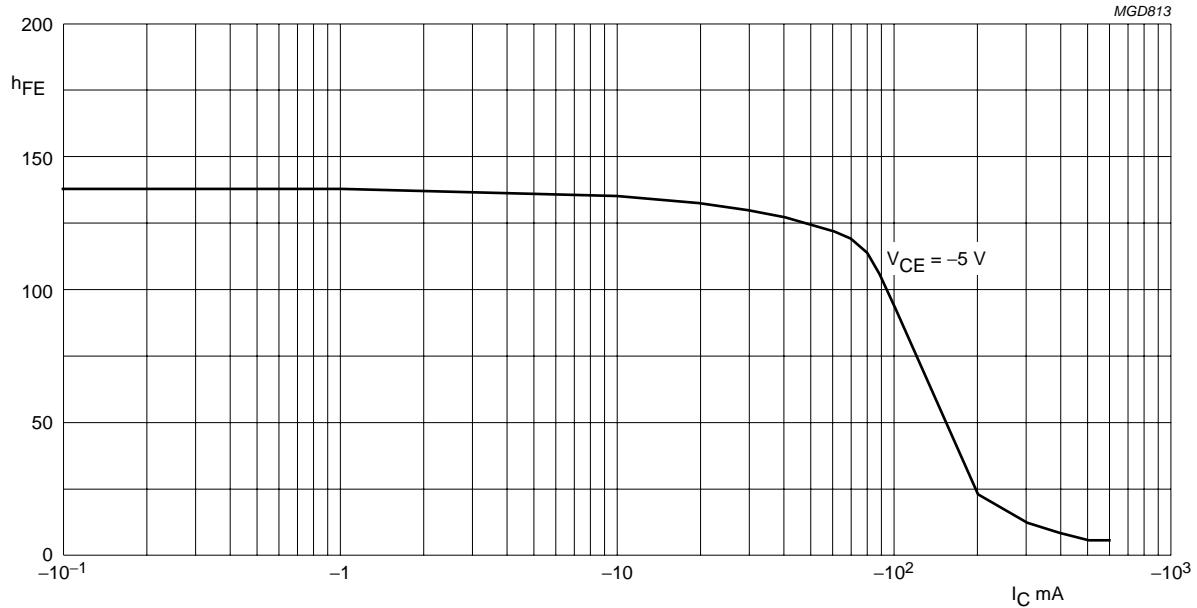


Fig.2 DC current gain; typical values.

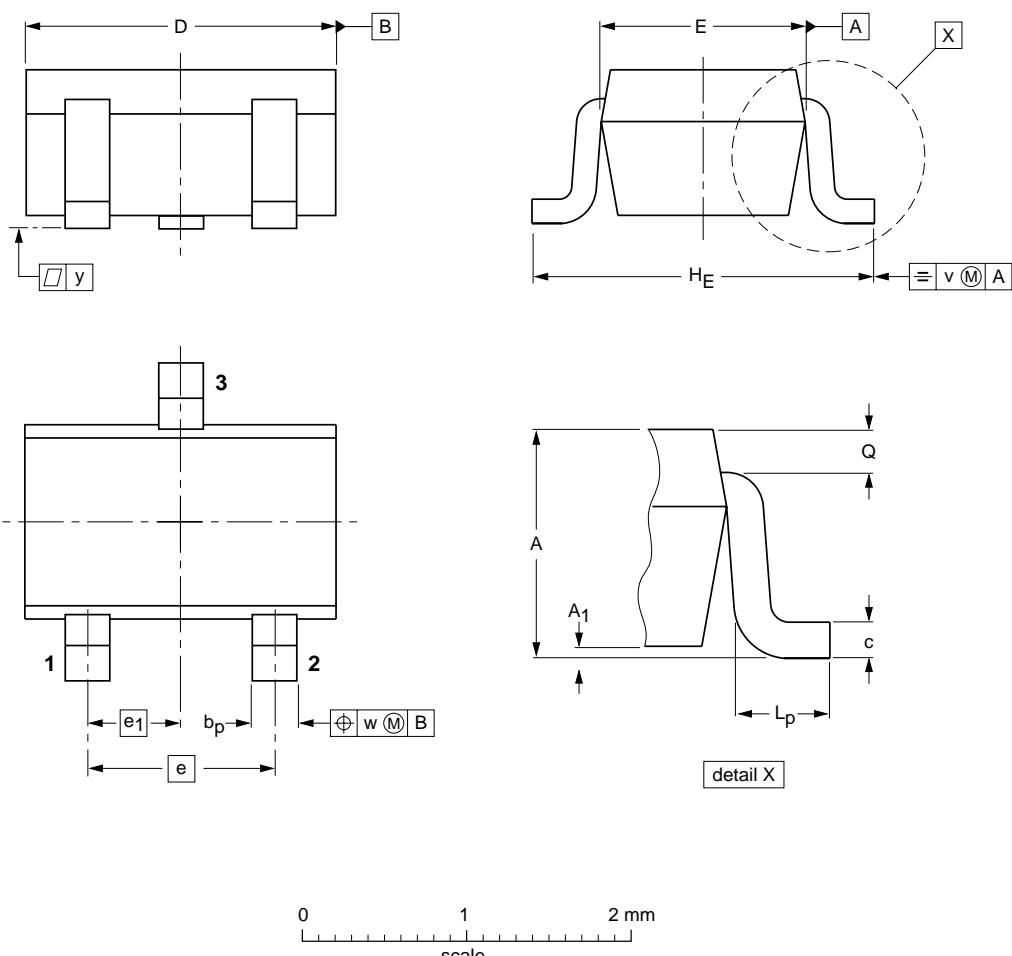
PNP high-voltage transistor

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



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 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ	SC-70		
SOT323						97-02-28

PNP high-voltage transistor**PMST5401****DATA SHEET STATUS**

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	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.

Notes

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2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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Customer notification

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