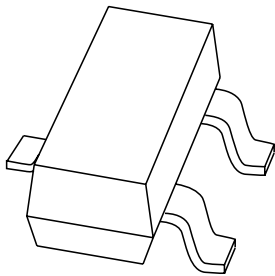


DATA SHEET



PMBT6428; PMBT6429 NPN general purpose transistors

Product specification
Supersedes data of 1999 Apr 27

2004 Jan 22

NPN general purpose transistors

PMBT6428; PMBT6429

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 50 V).

APPLICATIONS

- General purpose switching and amplification
- Telephony and professional communication equipment.

DESCRIPTION

NPN transistor in a SOT23 plastic package.

MARKING

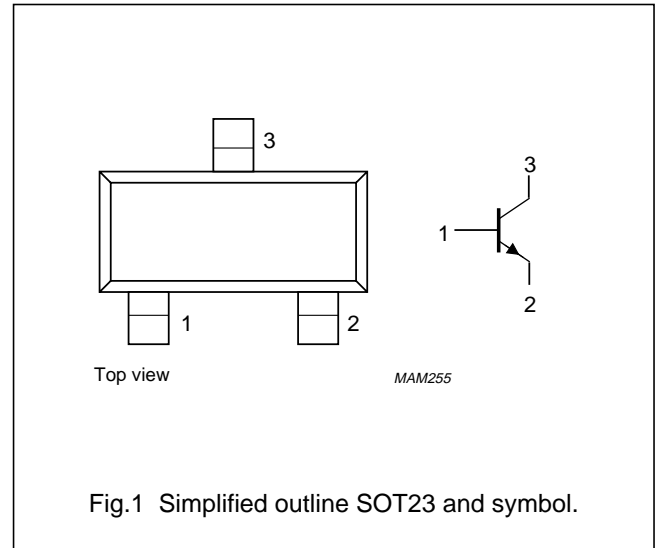
TYPE NUMBER	MARKING CODE ⁽¹⁾
PMBT6428	*1K
PMBT6429	*1L

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
PMBT6428	-	plastic surface mounted package; 3 leads	SOT23
PMBT6429			

NPN general purpose transistors

PMBT6428; PMBT6429

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	–	60	V
	PMBT6428			55	V
V _{CEO}	collector-emitter voltage	open base	–	50	V
	PMBT6428			45	V
V _{EBO}	emitter-base voltage	open collector	–	6	V
I _C	collector current (DC)		–	100	mA
I _{CM}	peak collector current		–	200	mA
I _{BM}	peak base current		–	200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °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.

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.

NPN general purpose transistors

PMBT6428; PMBT6429

CHARACTERISTICST_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I _{CBO}	collector cut-off current	I _E = 0; V _{CB} = 30 V	–	10	nA
I _{EBO}	emitter cut-off current	I _C = 0; V _{EB} = 5 V	–	10	nA
h _{FE}	DC current gain	I _C = 0.1 mA; V _{CE} = 5 V	250	650	
	PMBT6428				
	PMBT6429	500	1250		
	DC current gain	I _C = 1 mA; V _{CE} = 5 V	250	–	
	PMBT6428				
	PMBT6429	500	–		
DC current gain	I _C = 10 mA; V _{CE} = 5 V	250	–		
PMBT6428					
PMBT6429	500	–			
V _{CEsat}	collector-emitter saturation voltage	I _C = 10 mA; I _B = 0.5 mA	–	200	mV
		I _C = 100 mA; I _B = 5 mA	–	600	mV
V _{BE}	base-emitter voltage	I _C = 1 mA; V _{CE} = 5 V	560	660	mV
C _c	collector capacitance	I _E = i _e = 0; V _{CB} = 10 V; f = 1 MHz	–	3	pF
C _e	emitter capacitance	I _C = i _c = 0; V _{EB} = 0.5 V; f = 1 MHz	–	12	pF
f _T	transition frequency	I _C = 1 mA; V _{CE} = 5 V; f = 100 MHz	100	700	MHz

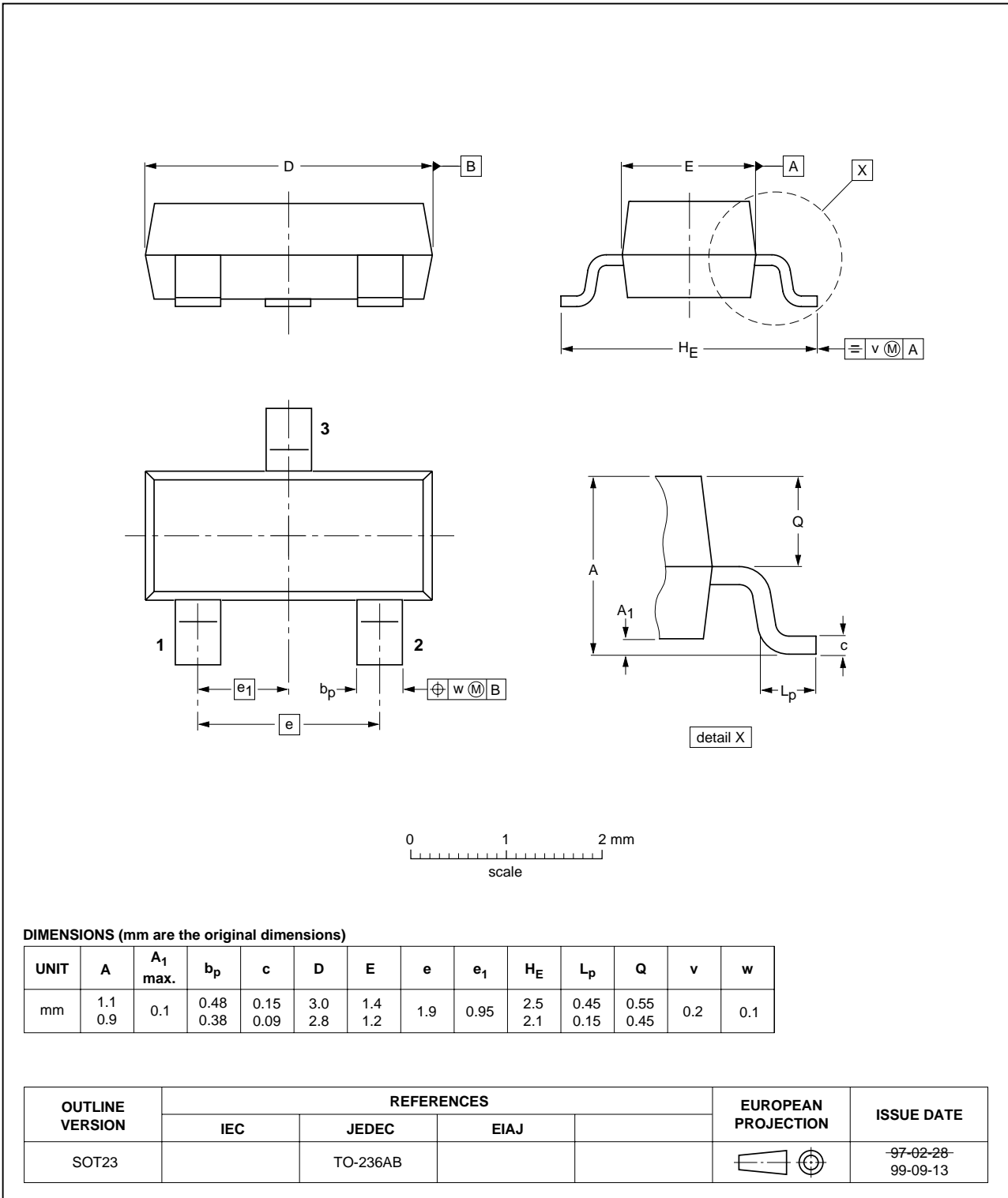
NPN general purpose transistors

PMBT6428; PMBT6429

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



NPN general purpose transistors

PMBT6428; PMBT6429

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.
II	Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
III	Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

Notes

1. Please consult the most recently issued data sheet before initiating or completing a design.
2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.
3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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