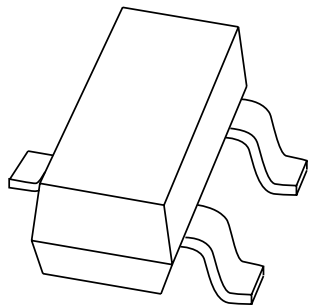


# DATA SHEET



## **PMBT6428; PMBT6429** NPN general purpose transistors

Product specification  
Supersedes data of 1997 Apr 02

1999 Apr 27

# 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

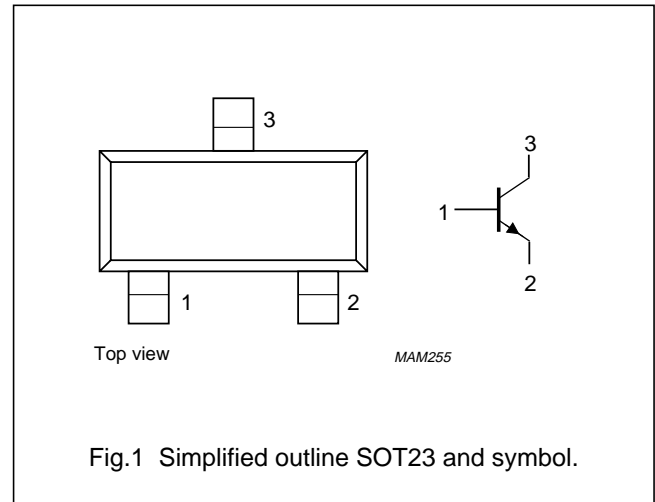
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
PMBT6428	*1K
PMBT6429	*1L

### Note

- \* = p : 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 <sub>CB0</sub>	collector-base voltage	open emitter			
	PMBT6428		–	60	V
	PMBT6429		–	55	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	PMBT6428		–	50	V
	PMBT6429		–	45	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	6	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		–	200	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.

## NPN general purpose transistors

## PMBT6428; PMBT6429

## 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

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 30\text{ V}$	–	10	nA
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = 5\text{ V}$	–	10	nA
$h_{FE}$	DC current gain PMBT6428 PMBT6429	$I_C = 0.1\text{ mA}; V_{CE} = 5\text{ V}$	250	650	
			500	1250	
	DC current gain PMBT6428 PMBT6429	$I_C = 1\text{ mA}; V_{CE} = 5\text{ V}$	250	–	
			500	–	
	DC current gain PMBT6428 PMBT6429	$I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$	250	–	
			500	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$	–	200	mV
		$I_C = 100\text{ mA}; I_B = 5\text{ mA}$	–	600	mV
$V_{BE}$	base-emitter voltage	$I_C = 1\text{ mA}; V_{CE} = 5\text{ V}$	560	660	mV
$C_c$	collector capacitance	$I_E = i_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	3	pF
$C_e$	emitter capacitance	$I_C = i_c = 0; V_{EB} = 0.5\text{ V}; f = 1\text{ MHz}$	–	12	pF
$f_T$	transition frequency	$I_C = 1\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$	100	700	MHz

NPN general purpose transistors

PMBT6428; PMBT6429

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



## NPN general purpose transistors

## PMBT6428; PMBT6429

**DEFINITIONS**

<b>Data Sheet Status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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NPN general purpose transistors

PMBT6428; PMBT6429

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**NOTES**

NPN general purpose transistors

PMBT6428; PMBT6429

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**NOTES**

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