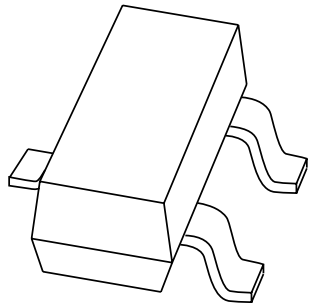


DATA SHEET



PMBTA06

NPN general purpose transistor

Product specification
Supersedes data of 1998 Jul 20

1999 Apr 29

NPN general purpose transistor

PMBTA06

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 80 V).

APPLICATIONS

- General purpose switching and amplification in e.g. telephony and professional communication equipment.

DESCRIPTION

NPN transistor in a SOT23 plastic package.
PNP complement: PMBTA56.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾
PMBTA06	*1G

Note

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

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

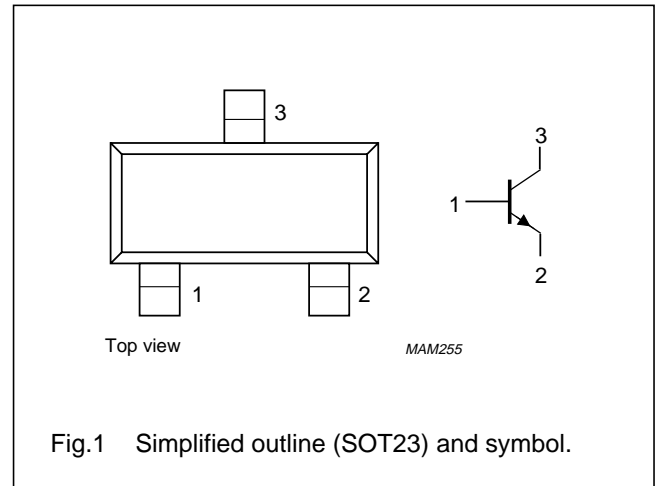


Fig.1 Simplified outline (SOT23) and symbol.

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	–	80	V
V _{CEO}	collector-emitter voltage	open base	–	80	V
V _{EBO}	emitter-base voltage	open collector	–	4	V
I _C	collector current (DC)		–	500	mA
I _{CM}	peak collector current		–	1	A
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.

NPN general purpose transistor

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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	$I_E = 0; V_{CB} = 80\text{ V}$	–	50	nA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = 5\text{ V}$	–	50	nA
h_{FE}	DC current gain	$I_C = 10\text{ mA}; V_{CE} = 1\text{ V}$	100	–	
		$I_C = 100\text{ mA}; V_{CE} = 1\text{ V}$	100	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 100\text{ mA}; I_B = 10\text{ mA}$	–	0.25	V
V_{BE}	base-emitter voltage	$I_C = 100\text{ mA}; V_{CE} = 1\text{ V}$	–	1.2	V
f_T	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 2\text{ V}; f = 100\text{ MHz}$	100	–	MHz

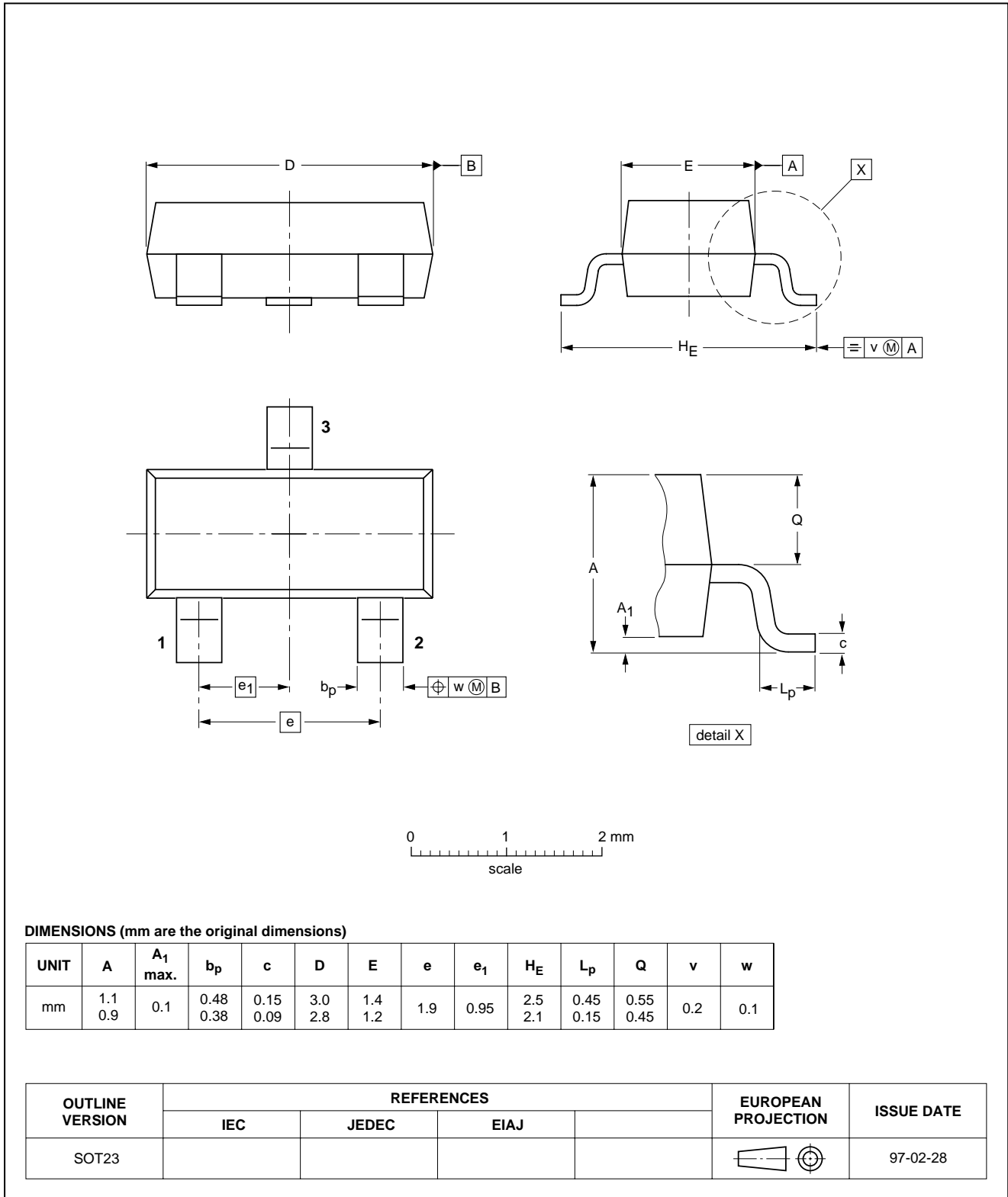
NPN general purpose transistor

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



NPN general purpose transistor

PMBTA06

DEFINITIONS

Data Sheet Status	
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.
Limiting values	
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.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

NPN general purpose transistor

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NOTES

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NOTES

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Printed in The Netherlands

115002/00/04/pp8

Date of release: 1999 Apr 29

Document order number: 9397 750 05911

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