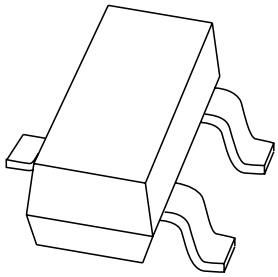
DATA SHEET



PMBTA06
NPN general purpose transistor

Product data sheet
Supersedes data of 1999 Apr 29

2004 Jan 22

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

1. * = p : Made in Hong Kong.
   * = t : Made in Malaysia.
   * = W : Made in China.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

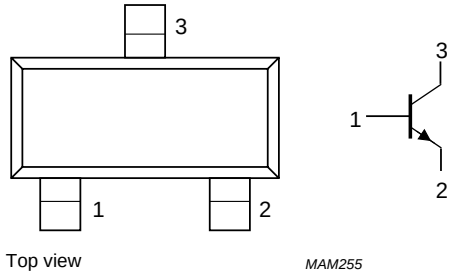


Fig.1 Simplified outline (SOT23) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
PMBTA06	–	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	–	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	$T_{amb} \leq 25$ °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.

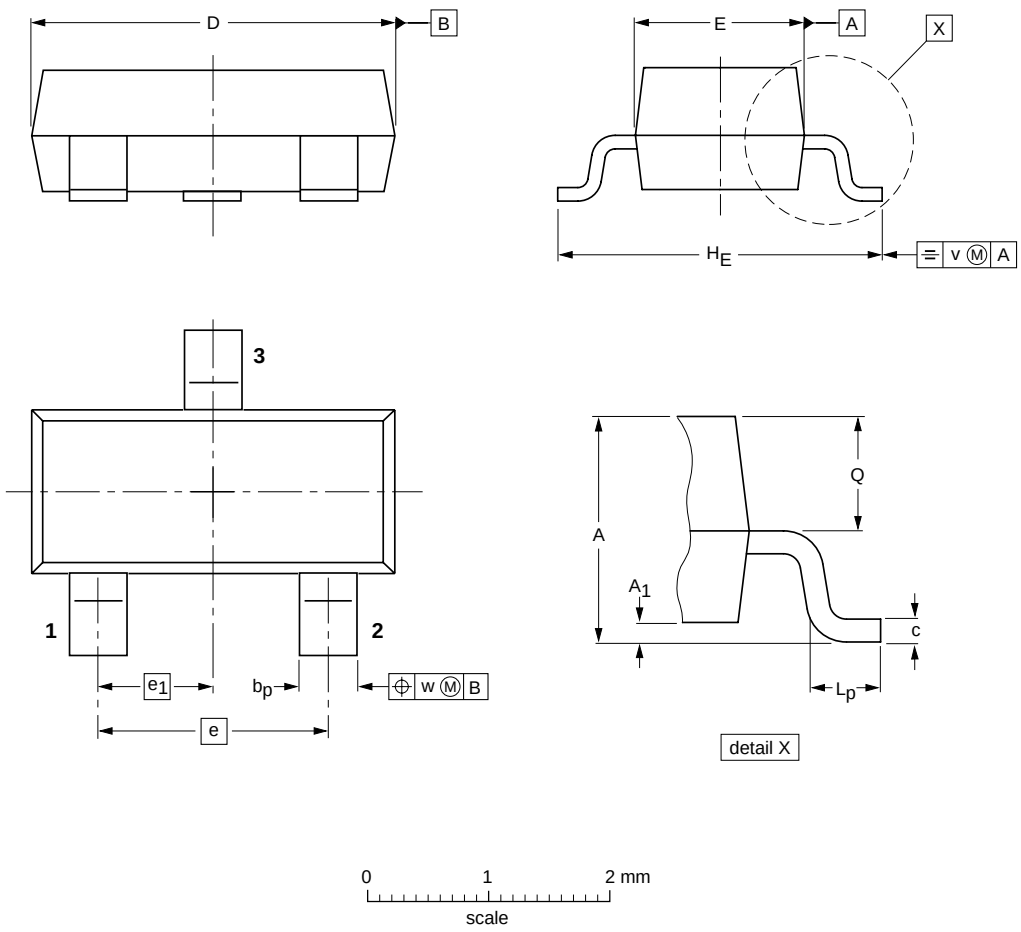
CHARACTERISTICS

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

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

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	JEITA			
SOT23		TO-236AB				~~04-11-04~~ 06-03-16