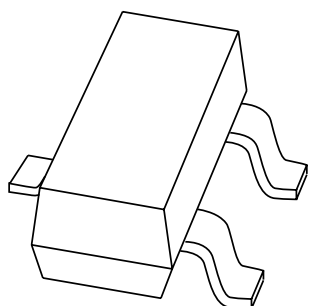


DATA SHEET



PMBTA64

PNP Darlington transistor

Product specification
Supersedes data of 1999 Apr 13

2002 Nov 07

PNP Darlington transistor

PMBTA64

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 30 V)
- High DC current gain (min. 10000).

APPLICATIONS

- High input impedance preamplifiers.

DESCRIPTION

PNP Darlington transistor in a SOT23 plastic package.
NPN complement: PMBTA14.

MARKING

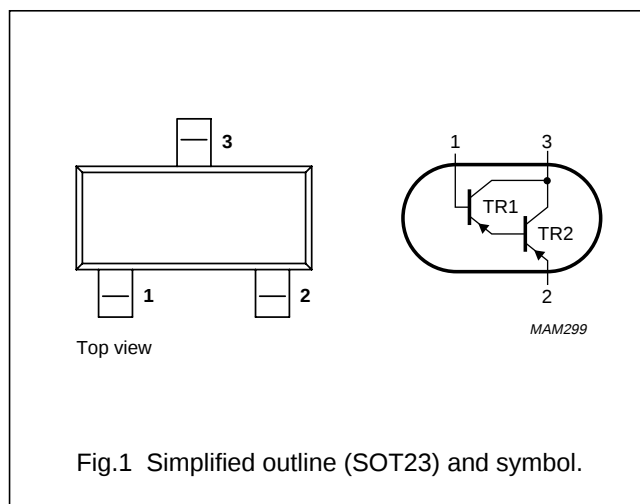
TYPE NUMBER	MARKING CODE ⁽¹⁾
PMBTA64	*2V

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 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–30	V
V_{CES}	collector-emitter voltage	$V_{BE} = 0$	–	–30	V
V_{EBO}	emitter-base voltage	open collector	–	–10	V
I_C	collector current (DC)		–	–500	mA
I_{CM}	peak collector current		–	–800	mA
I_B	base current (DC)		–	–200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; 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.

PNP Darlington 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

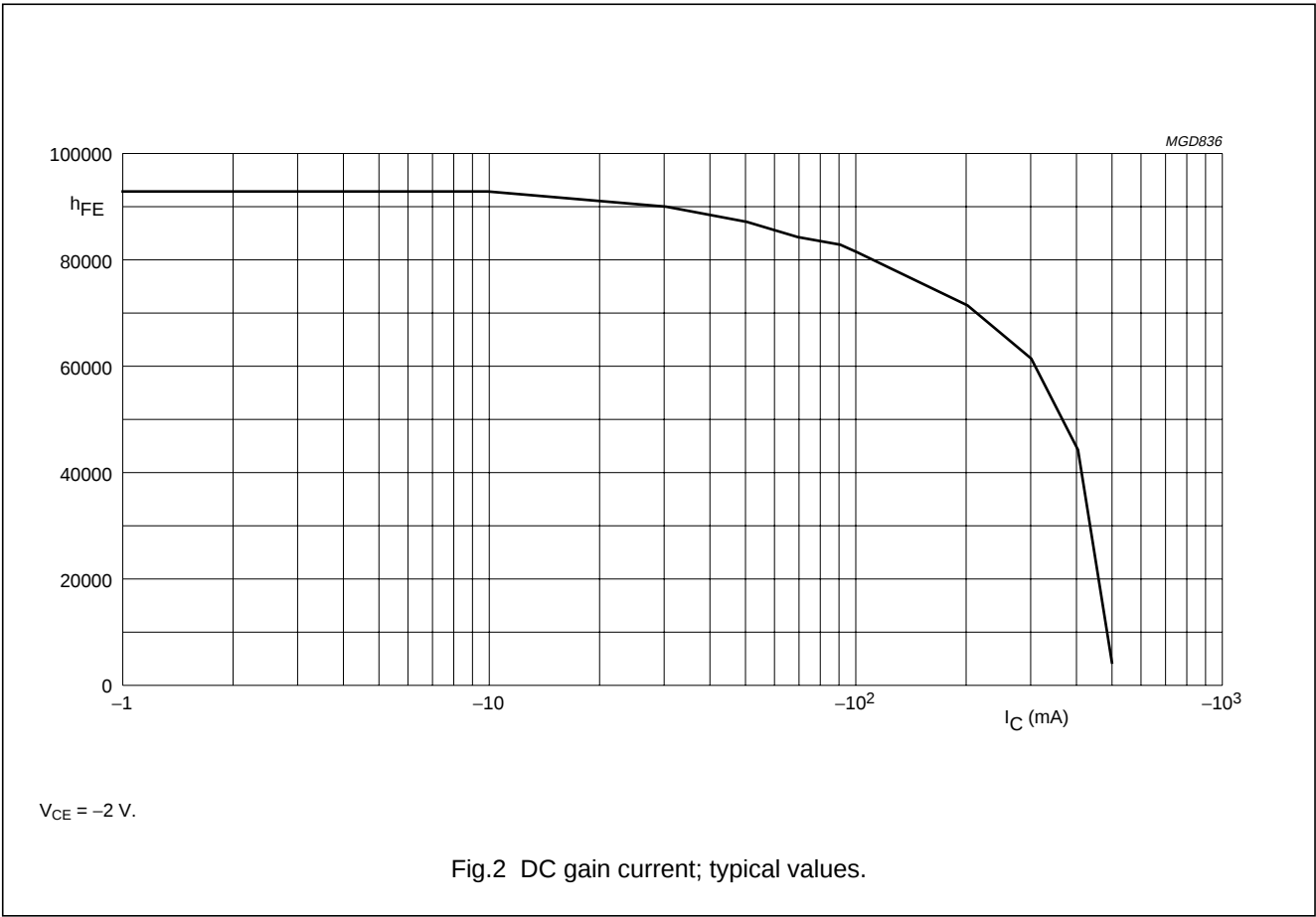
Note

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

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = -30\text{ V}$	–	–100	nA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = -10\text{ V}$;	–	–100	nA
h_{FE}	DC current gain	$I_C = -10\text{ mA}$; $V_{CE} = -5\text{ V}$; (see Fig.2)	10000	–	
		$I_C = -100\text{ mA}$; $V_{CE} = -5\text{ V}$; (see Fig.2)	20000	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -100\text{ mA}$; $I_B = -0.1\text{ mA}$	–	–1.5	V
V_{BEon}	base-emitter on-state voltage	$I_C = -100\text{ mA}$; $V_{CE} = -5\text{ V}$	–	–2	V
f_T	transition frequency	$I_C = -50\text{ mA}$; $V_{CE} = -5\text{ V}$; $f = 100\text{ MHz}$	125	–	MHz



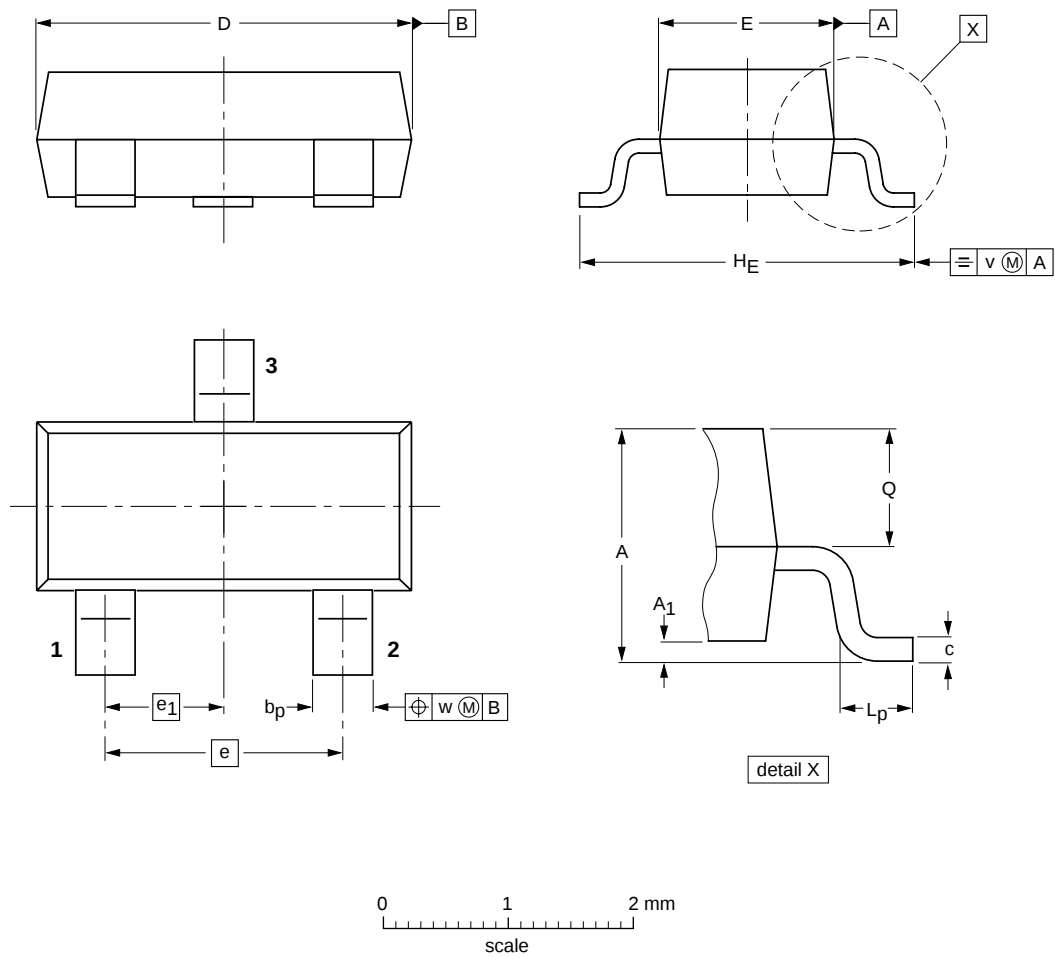
PNP Darlington transistor

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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	EIAJ			
SOT23		TO-236AB				97-02-28 99-09-13

PNP Darlington transistor

PMBTA64

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

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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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PNP Darlington transistor

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NOTES

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NOTES

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