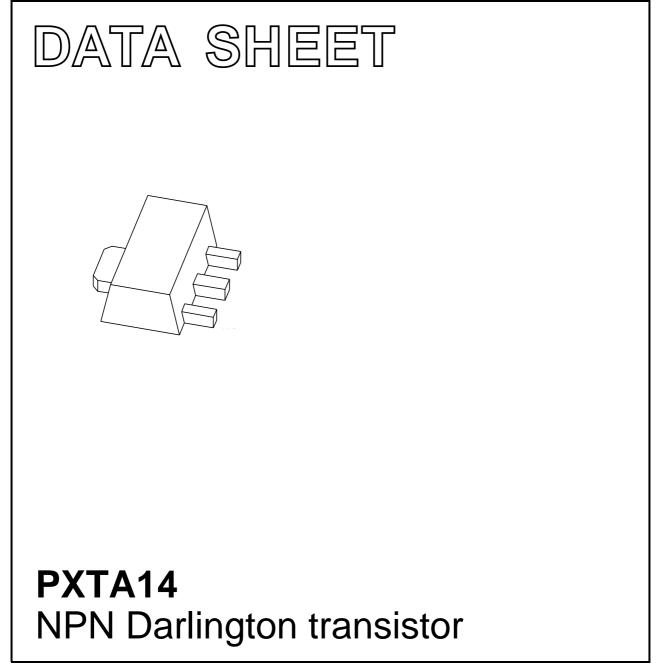
DISCRETE SEMICONDUCTORS



Product data sheet Supersedes data of 1999 Apr 14 2004 Dec 09



Product data sheet

NPN Darlington transistor

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 30 V).

APPLICATIONS

• High input impedance preamplifiers.

DESCRIPTION

NPN Darlington transistor in a SOT89 plastic package. PNP complement: PXTA64.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾
PXTA14	*1N

Note

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

* = W: Made in China.

ORDERING INFORMATION

PINNING

PIN	DESCRIPTION	
1	emitter	
2	collector	
3	base	

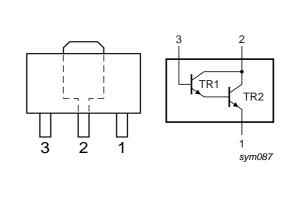


Fig.1 Simplified outline (SOT89) and symbol.

TYPE NUMBER		PACKAGE	
ITFE NOWIDER	NAME	DESCRIPTION	VERSION
PXTA14	SC-62	plastic surface mounted package; collector pad for good heat transfer; 3 leads	SOT89

PXTA14

NPN Darlington transistor

PXTA14

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 V	-	30	V
V _{EBO}	emitter-base voltage	open collector	-	10	V
I _C	collector current (DC)		-	500	mA
I _{CM}	peak collector current		-	1	А
I _B	base current (DC)		-	200	mA
P _{tot}	total power dissipation	$T_{amb} \le 25 \ ^{\circ}C$; note 1	-	1.3	W
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	150	°C
T _{amb}	ambient temperature		-65	+150	°C

Note

1. Device mounted on a printed-circuit board, single-sided copper, tin-plated, mounting pad for collector 6 cm². For other mounting conditions, see *"Thermal considerations for the SOT89 in the General Part of associated Handbook"*.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th(j-a)}	thermal resistance from junction to ambient	note 1	96	K/W
R _{th(j-s)}	thermal resistance from junction to solder point		16	K/W

Note

1. Device mounted on a printed-circuit board, single-sided copper, tin-plated, mounting pad for collector 6 cm². For other mounting conditions, see *"Thermal considerations for the SOT89 in the General Part of associated Handbook"*.

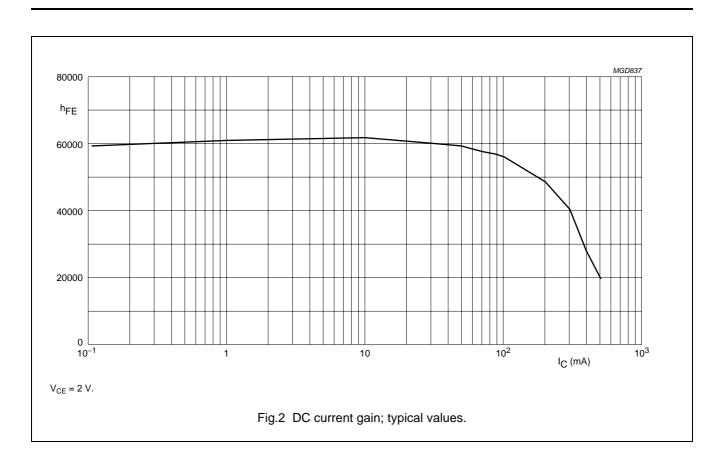
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I _{CBO}	collector-base cut-off current	I _E = 0 A; V _{CB} = 30 V	-	100	nA
I _{CES}	collector-emitter cut-off current	V _{BE} = 0 V; V _{CE} = 30 V	-	100	nA
I _{EBO}	emitter cut-off current	I _C = 0 A; V _{EB} = 10 V	-	100	nA
h _{FE}	DC current gain	$I_C = 10 \text{ mA}; V_{CE} = 5 \text{ V}; \text{ (see Fig.2)}$	10000	-	
		I _C = 100 mA; V _{CE} = 5 V; (see Fig.2)	20000	-	
V _{CEsat}	collector-emitter saturation voltage	I _C = 100 mA; I _B = 0.1 mA	-	1.5	V
V _{BEsat}	base-emitter saturation voltage	I _C = 100 mA; I _B = 0.1 mA	_	1.5	V
V _{BEon}	base-emitter on-state voltage	I _C = 100 mA; V _{CE} = 5 V	_	2	V
f _T	transition frequency	$I_{C} = 30 \text{ mA}; V_{CE} = 5 \text{ V}; f = 100 \text{ MHz}$	125	_	MHz

PXTA14

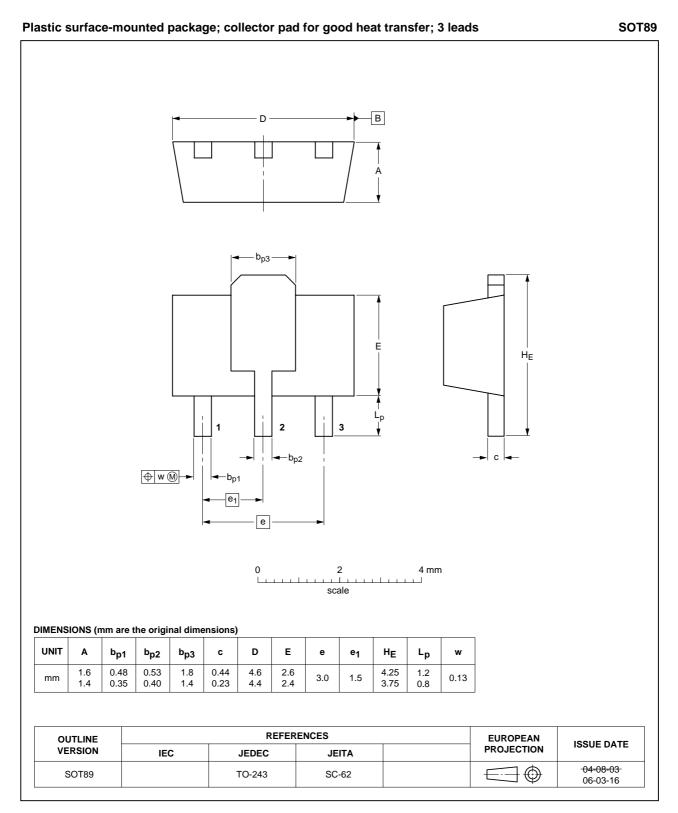
NPN Darlington transistor



NPN Darlington transistor

PXTA14

PACKAGE OUTLINE



NPN Darlington transistor

PXTA14

DATA SHEET STATUS

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

- 1. Please consult the most recently issued document before initiating or completing a design.
- The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

For additional information please visit: http://www.nxp.com For sales offices addresses send e-mail to: salesaddresses@nxp.com

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