

# DATA SHEET



## **BCV26; BCV46** PNP Darlington transistors

Product data sheet  
Supersedes data of 1999 Apr 08

2004 Jan 13

# PNP Darlington transistors

# BCV26; BCV46

### FEATURES

- High current (max. 500 mA)
- Low voltage (max. 60 V)
- Very high DC current gain (min. 10000).

### APPLICATIONS

- Where very high amplification is required.

### DESCRIPTION

PNP Darlington transistor in a SOT23 plastic package.  
NPN complements: BCV27 and BCV47.

### MARKING

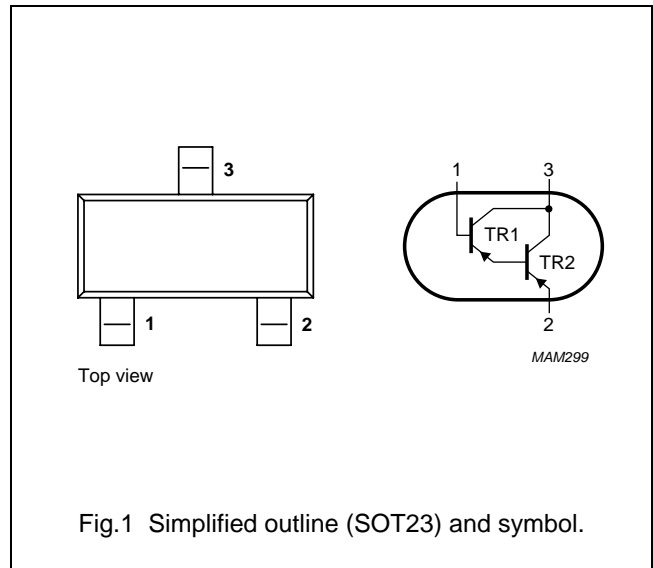
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BCV26	FD*
BCV46	FE*

### Note

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

### PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BCV26	–	plastic surface mounted package; 3 leads	SOT23
BCV46			

## PNP Darlington transistors

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**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter			
	BCV26		–	–40	V
	BCV46		–	–80	V
V <sub>CES</sub>	collector-emitter voltage	V <sub>BE</sub> = 0			
	BCV26		–	–30	V
	BCV46		–	–60	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	–10	V
I <sub>C</sub>	collector current (DC)		–	–500	mA
I <sub>CM</sub>	peak collector current		–	–800	mA
I <sub>B</sub>	base current (DC)		–	–100	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.

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th(j-a)</sub>	thermal resistance from junction to ambient	note 1	500	K/W

**Note**

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

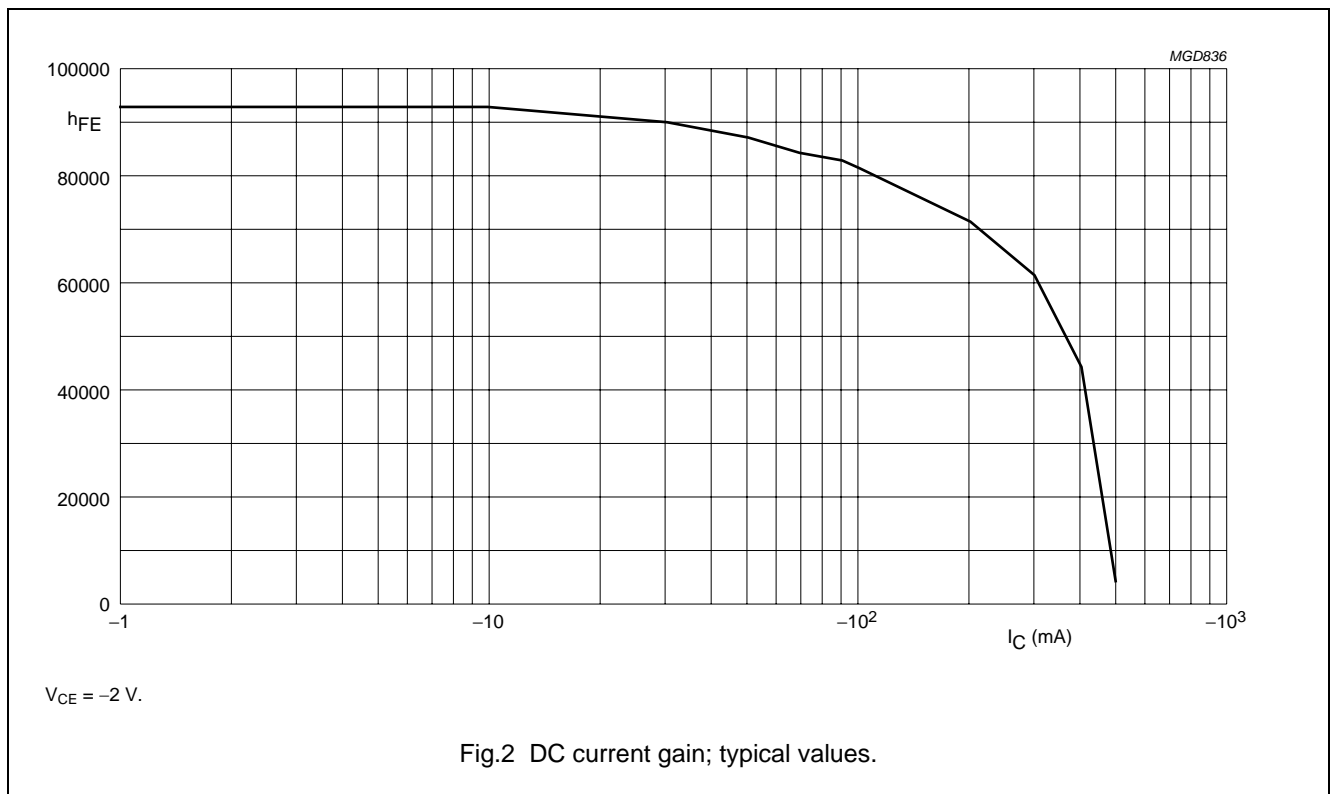
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**CHARACTERISTICS**

T<sub>amb</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I <sub>CBO</sub>	collector cut-off current					
	BCV26	I <sub>E</sub> = 0; V <sub>CB</sub> = -30 V	-	-	-100	nA
	BCV46	I <sub>E</sub> = 0; V <sub>CB</sub> = -60 V	-	-	-100	nA
I <sub>EBO</sub>	emitter cut-off current	I <sub>C</sub> = 0; V <sub>EB</sub> = -10 V	-	-	-100	nA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> = -1 mA; V <sub>CE</sub> = -5 V; (see Fig.2)				
	BCV26		4000	-	-	
	BCV46		2000	-	-	
	DC current gain	I <sub>C</sub> = -10 mA; V <sub>CE</sub> = -5 V; (see Fig.2)				
	BCV26		10000	-	-	
	BCV46		4000	-	-	
V <sub>CEsat</sub>	collector-emitter saturation voltage	I <sub>C</sub> = -100 mA; I <sub>B</sub> = -0.1 mA	-	-	-1	V
	V <sub>BEsat</sub>	base-emitter saturation voltage	I <sub>C</sub> = -100 mA; I <sub>B</sub> = -0.1 mA	-	-	-1.5
V <sub>BEon</sub>	base-emitter on-state voltage	I <sub>C</sub> = -10 mA; V <sub>CE</sub> = -5 V	-	-	-1.4	V
f <sub>T</sub>	transition frequency	I <sub>C</sub> = -30 mA; V <sub>CE</sub> = -5 V; f = 100 MHz	-	220	-	MHz



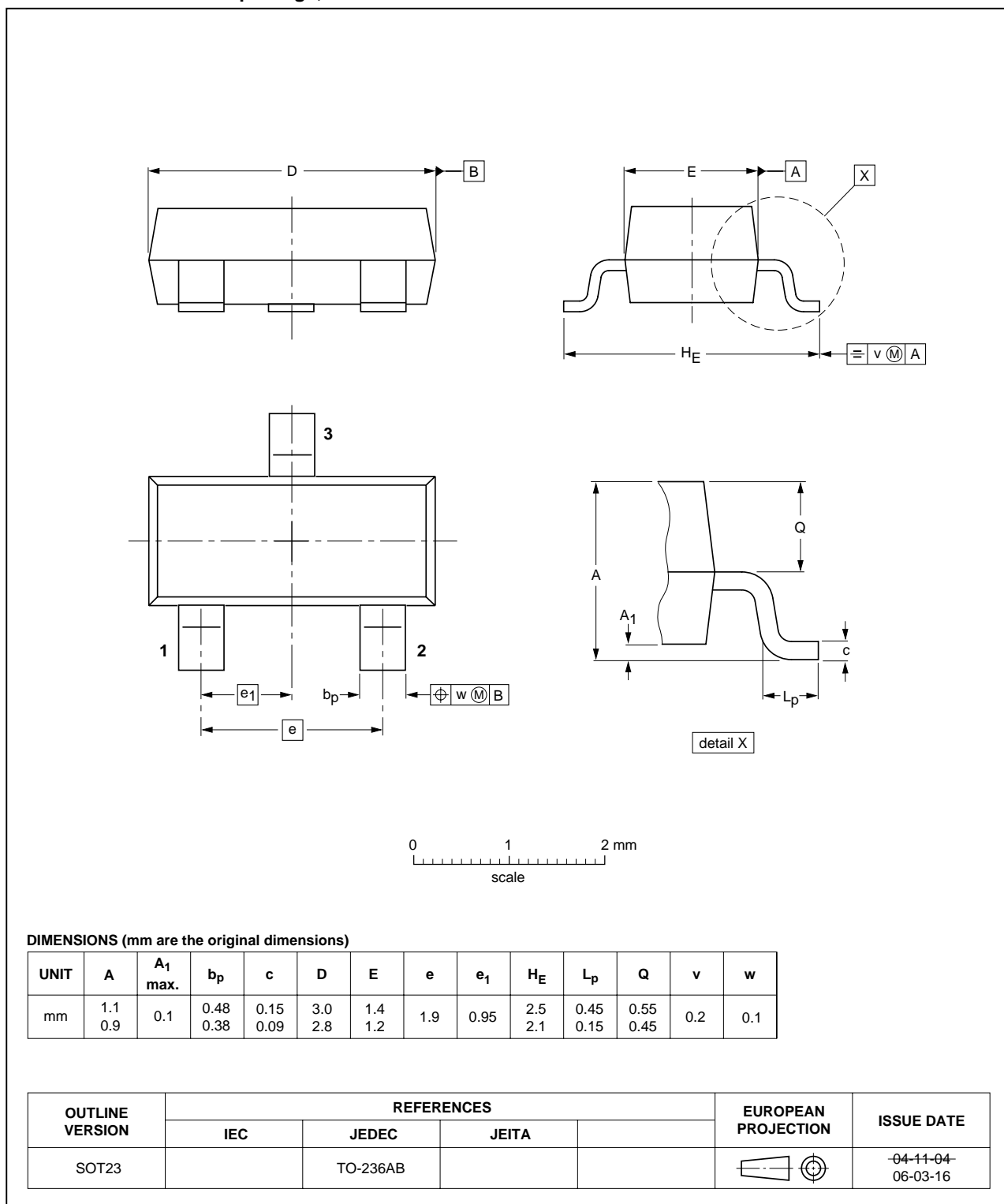
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PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



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## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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.
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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](mailto:salesaddresses@nxp.com)

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