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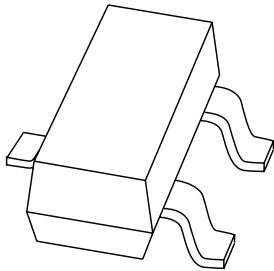
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Kind regards,

Team Nexperia

# 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

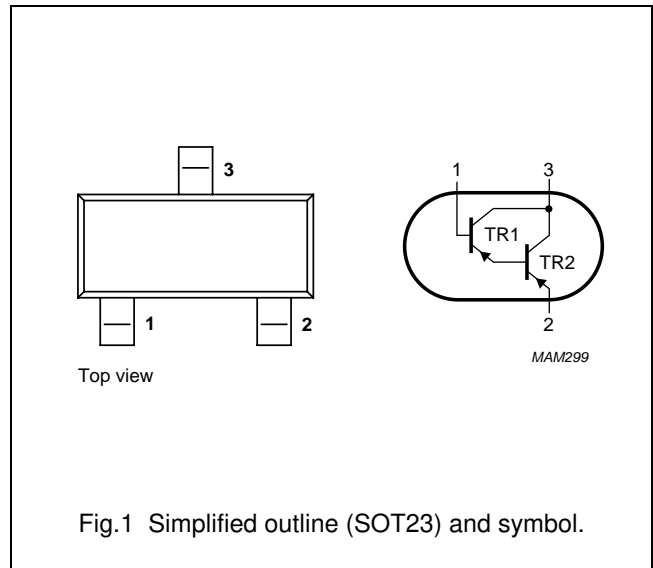
| TYPE NUMBER | MARKING CODE <sup>(1)</sup> |
|-------------|-----------------------------|
| BCV26       | FD*                         |
| BCV46       | FE*                         |

### 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

## BCV26; BCV46

**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.

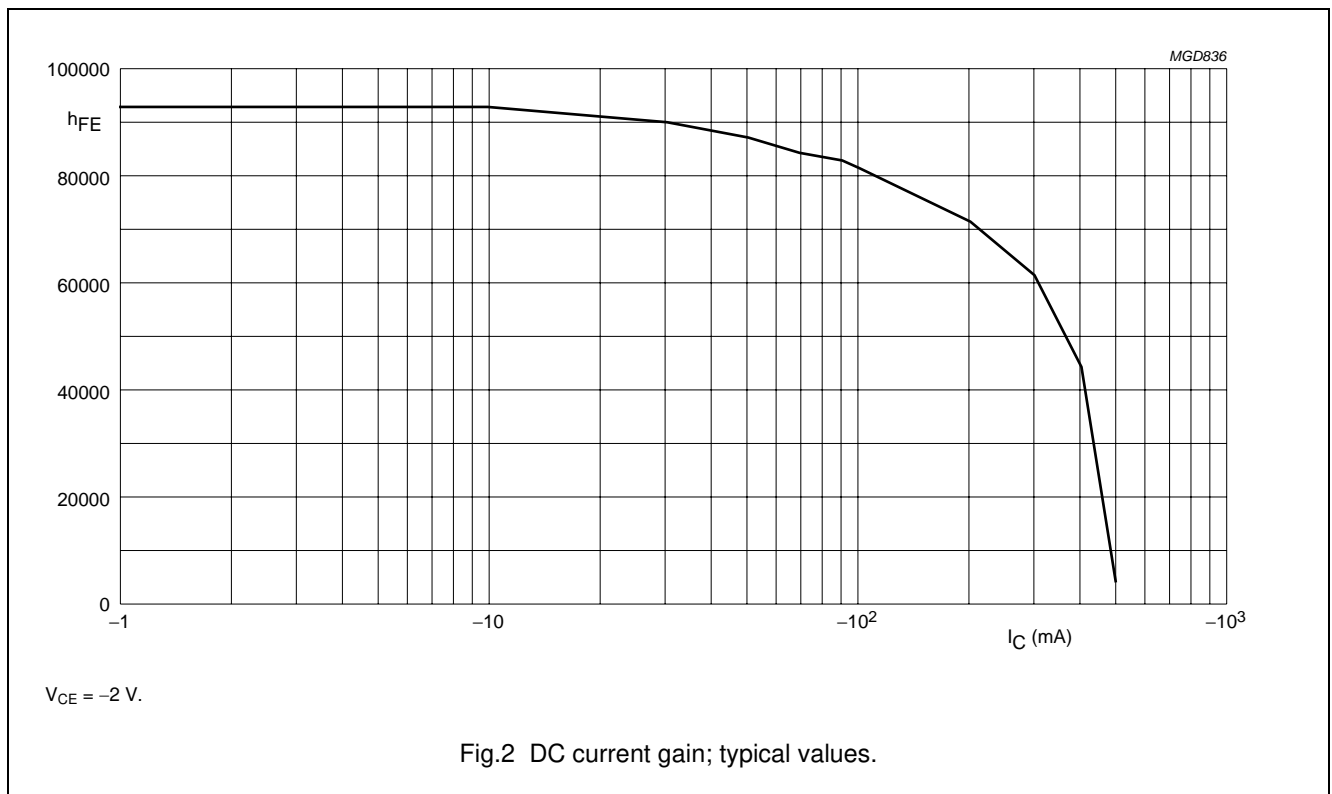
PNP Darlington transistors

BCV26; BCV46

**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  |



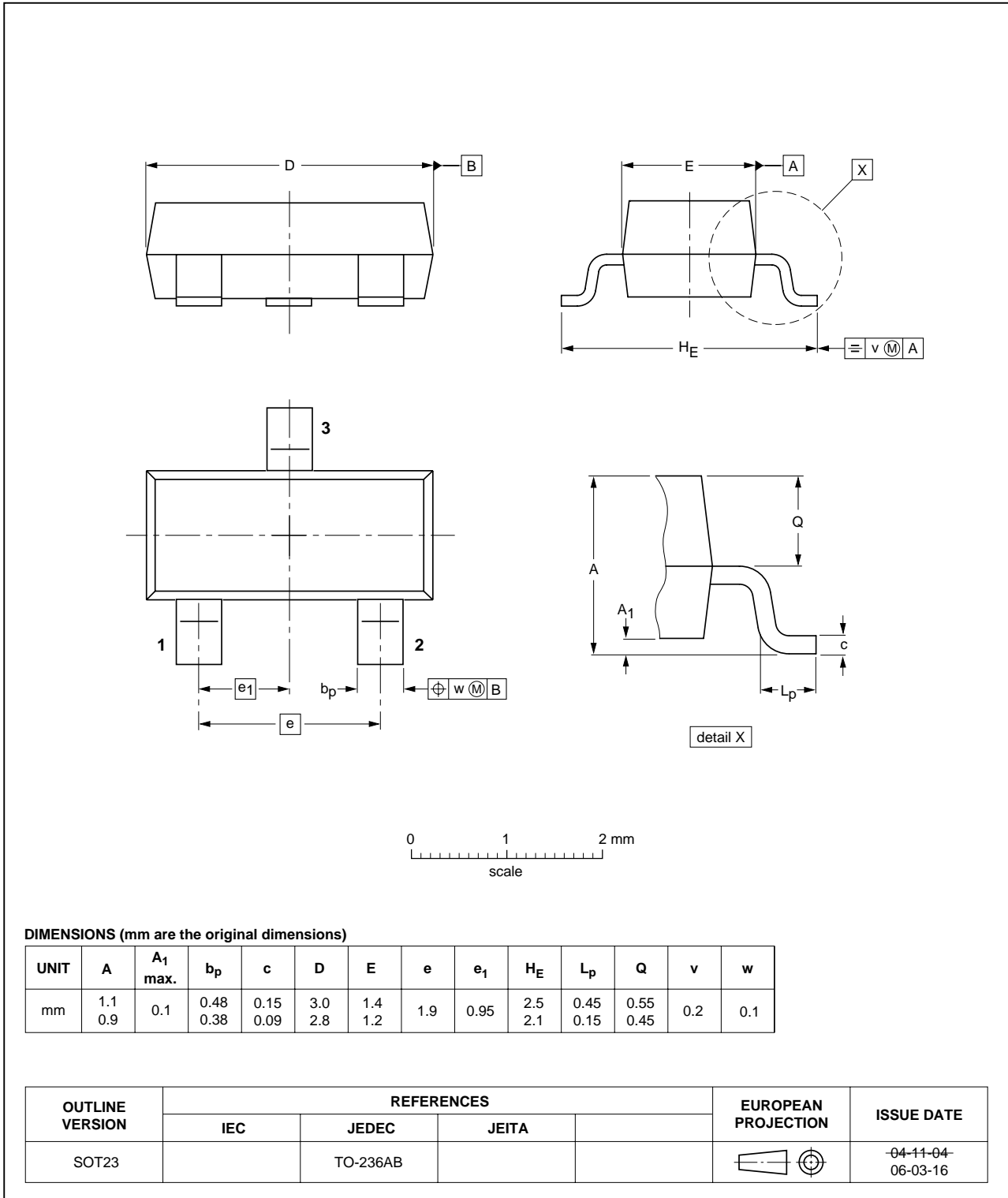
PNP Darlington transistors

BCV26; BCV46

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



PNP Darlington transistors

BCV26; BCV46

**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.                                     |

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# ***NXP Semiconductors***

## **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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