

# DATA SHEET



## **BCX17; BCX18** PNP general purpose transistors

Product data sheet  
Supersedes data of 1999 May 31

2004 Jan 16

# PNP general purpose transistors

# BCX17; BCX18

### FEATURES

- High current (max. 500 mA)
- Low voltage (max. 45 V).

### APPLICATIONS

- Saturated switching and driver applications e.g. for industrial service
- Thick and thin-film circuits.

### DESCRIPTION

PNP transistor in a SOT23 plastic package.  
NPN complement: BCX19.

### MARKING

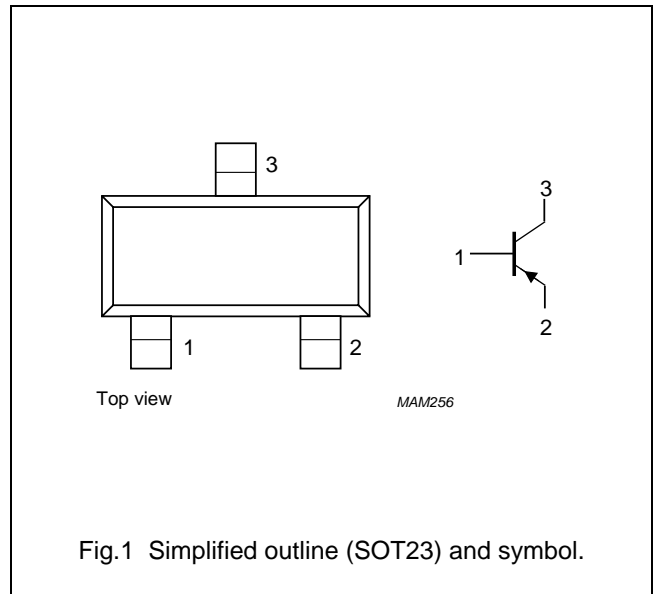
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BCX17	T1*
BCX18	T2*

### 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
BCX17	-	plastic surface mounted package; 3 leads	SOT23
BCX18			

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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			
	BCX17		–	–50	V
	BCX18		–	–30	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BCX17		–	–45	V
	BCX18		–	–25	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	–5	V
I <sub>C</sub>	collector current (DC)		–	–500	mA
I <sub>CM</sub>	peak collector current		–	–1	A
I <sub>BM</sub>	peak base current		–	–200	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**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -20\text{ V}$	–	–	–100	nA
		$I_E = 0; V_{CB} = -20\text{ V}; T_j = 150\text{ °C}$	–	–	–5	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–	–100	nA
$h_{FE}$	DC current gain	$I_C = -100\text{ mA}; V_{CE} = -1\text{ V}$	100	–	600	
		$I_C = -300\text{ mA}; V_{CE} = -1\text{ V}$	70	–	–	
		$I_C = -500\text{ mA}; V_{CE} = -1\text{ V}$	40	–	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -50\text{ mA}$	–	–	–620	mV
$V_{BE}$	base-emitter voltage	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V}$ ; note 1	–	–	–1.2	V
$C_c$	collector capacitance	$I_E = I_e = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	–	9	–	pF
$f_T$	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	80	–	–	MHz

**Note**

- $V_{BE}$  decreases by approximately  $-2\text{ mV/°C}$  with increasing temperature.

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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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# ***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>

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