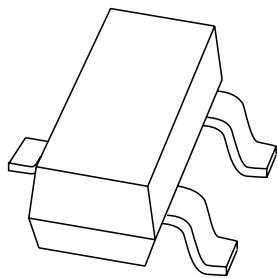


# DATA SHEET



Datasheet.Technology

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

Product specification  
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

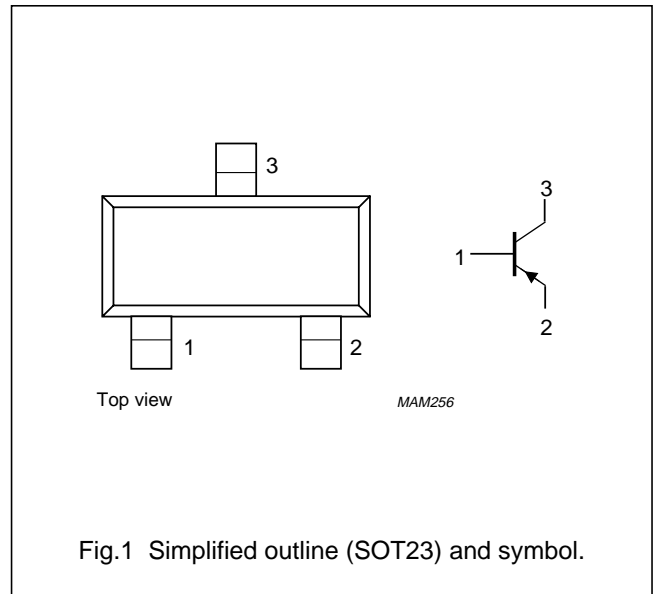
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
BCX17	T1*
BCX18	T2*

### 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			

## PNP general purpose transistors

## BCX17; BCX18

**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.

## PNP general purpose transistors

## BCX17; BCX18

**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	$I_C = -500\text{ mA}; V_{CE} = -1\text{ V}; \text{note 1}$	–	–	–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.

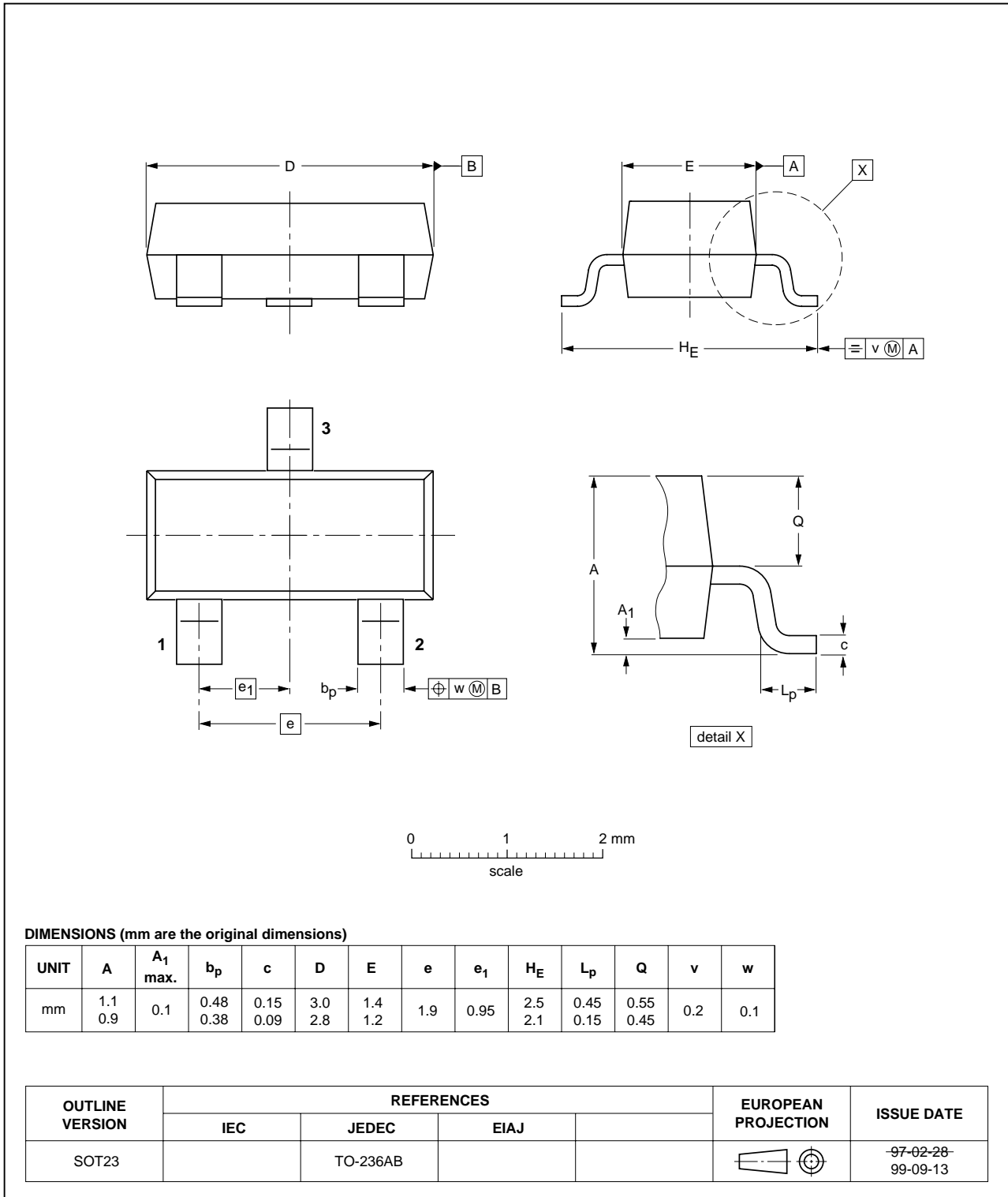
PNP general purpose transistors

BCX17; BCX18

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



## PNP general purpose transistors

## BCX17; BCX18

## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	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.
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