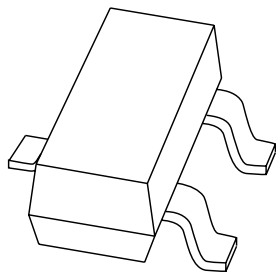


DATA SHEET



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

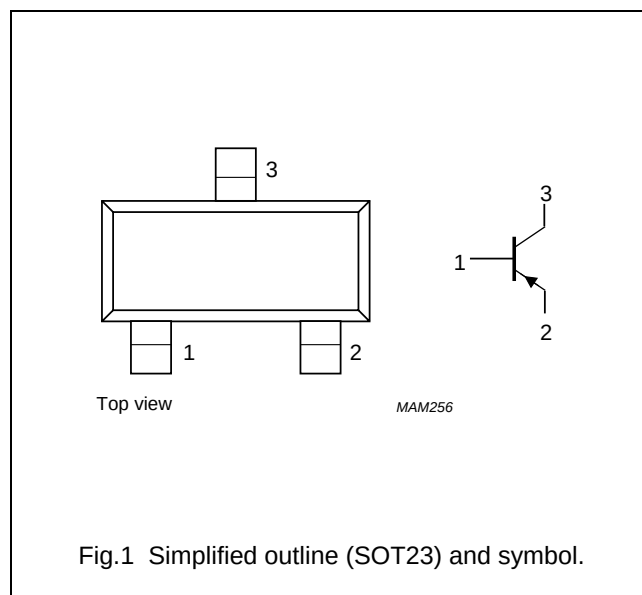
TYPE NUMBER	MARKING CODE ⁽¹⁾
BCX17	T1*
BCX18	T2*

Note

1. * = 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 _{CBO}	collector-base voltage	open emitter			
	BCX17		–	–50	V
	BCX18		–	–30	V
V _{CEO}	collector-emitter voltage	open base			
	BCX17		–	–45	V
	BCX18		–	–25	V
V _{EBO}	emitter-base voltage	open collector	–	–5	V
I _C	collector current (DC)		–	–500	mA
I _{CM}	peak collector current		–	–1	A
I _{BM}	peak base current		–	–200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	250	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Note

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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th(j-a)}	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	μA
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 mV/°C with increasing temperature.

PNP general purpose transistors

BCX17; BCX18

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23

Technical drawing of the SOT23 package showing top, side, and detail views with dimensions D, E, A, H_E, A₁, Q, c, L_p, v, w, A, e₁, b_p, e, 1, 2, 3, and a scale bar from 0 to 2 mm.

DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT23		TO-236AB				04-11-04 06-03-16