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In data sheets and application notes which still contain NXP or Philips Semiconductors references, use the references to Nexperia, as shown below.

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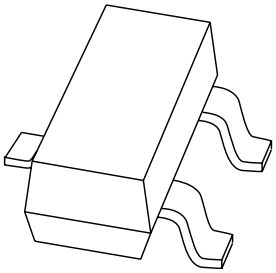
Kind regards,

Team Nexperia

DATA SHEET



BCW29; BCW30
PNP general purpose transistors

Product data sheet
Supersedes data of 1999 Apr 13

2004 Jan 13

PNP general purpose transistors BCW29; BCW30

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 32 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in a SOT23 plastic package.
NPN complements: BCW31 and BCW32.

MARKING

TYPE NUMBER	MARKING CODE(1)
BCW29	C1*
BCW30	C2*

Note

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

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

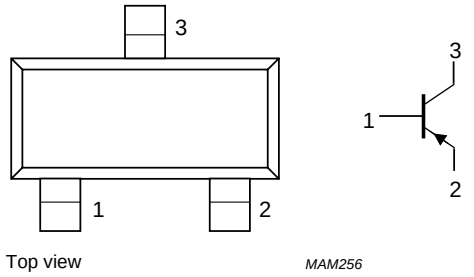


Fig.1 Simplified outline SOT23 and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BCW29	–	plastic surface mounted package; 3 leads	SOT23
BCW30			

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	–	−32	V
V_{CEO}	collector-emitter voltage	open base; I_C = −2 mA	–	−32	V
V_{EBO}	emitter-base voltage	open collector	–	−5	V
I_C	collector current (DC)		–	−100	mA
I_{CM}	peak collector current		–	−200	mA
I_{BM}	peak base current		–	−200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	–	250	mW
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		−65	+150	°C

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.

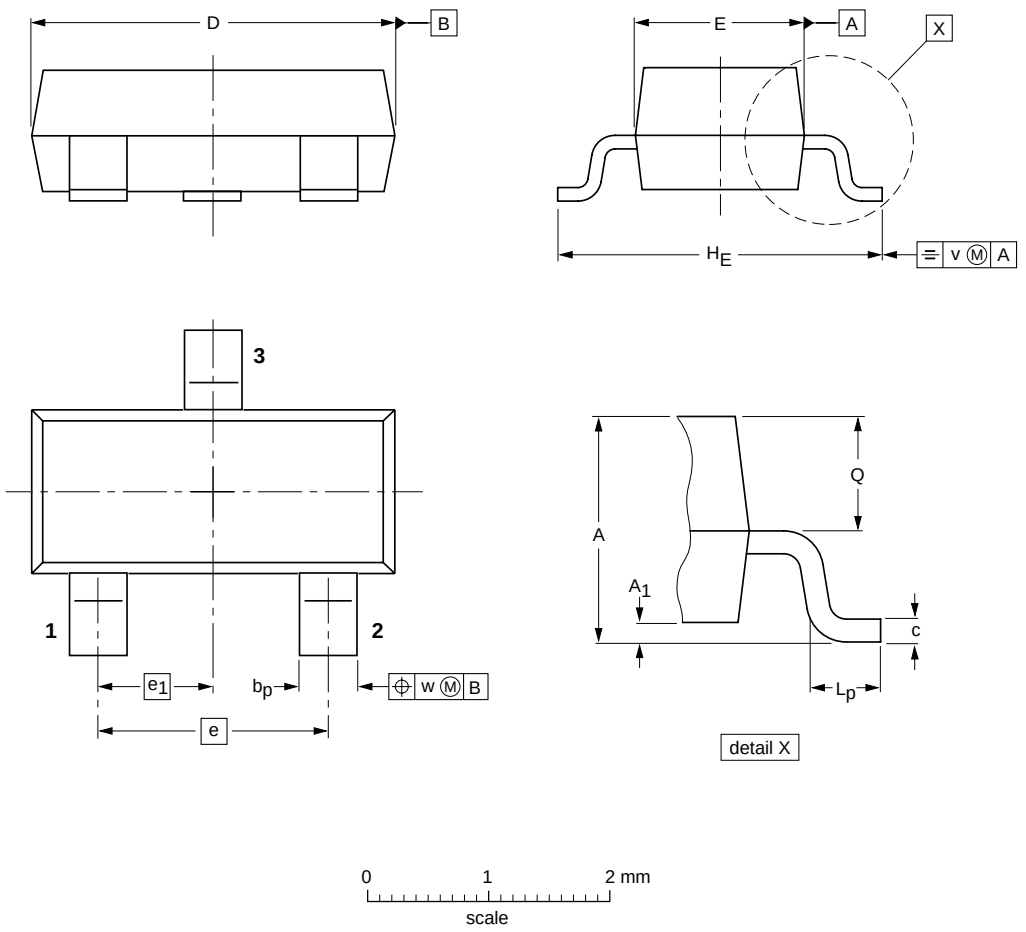
CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = –32 V	–	–	–100	nA
		I_E = 0; V_{CB} = –32 V; T_j = 100 °C	–	–	–10	μA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = –5 V	–	–	–100	nA
h_{FE}	DC current gain BCW29 BCW30	I_C = –10 μA; V_{CE} = –5 V	 – –	 90 150	 – –	
	DC current gain BCW29 BCW30	I_C = –2 mA; V_{CE} = –5 V	 120 215	 – –	 260 500	
V_{CEsat}	collector-emitter saturation voltage	I_C = –10 mA; I_B = –0.5 mA	–	–80	–300	mV
		I_C = –50 mA; I_B = –2.5 mA	–	–150	–	mV
V_{BEsat}	base-emitter saturation voltage	I_C = –10 mA; I_B = –0.5 mA	–	–720	–	mV
		I_C = –50 mA; I_B = –2.5 mA	–	–810	–	mV
V_{BE}	base-emitter voltage	I_C = –2 mA; V_{CE} = –5 V	–600	–	–750	mV
C_c	collector capacitance	I_E = I_e = 0; V_{CB} = –10 V; f = 1 MHz	–	4.5	–	pF
f_T	transition frequency	I_C = –10 mA; V_{CE} = –5 V; f = 100 MHz	100	–	–	MHz
F	noise figure	I_C = –200 μA; V_{CE} = –5 V; R_S = 2 kΩ; f = 1 kHz; B = 200 Hz	–	–	10	dB

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads **SOT23**



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

DATA SHEET STATUS

DOCUMENT STATUS[1]	PRODUCT STATUS[2]	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

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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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