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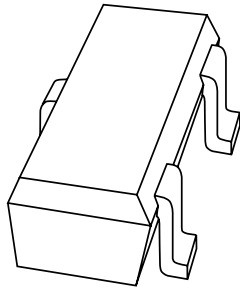
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via [salesaddresses@nexperia.com](mailto:salesaddresses@nexperia.com)). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

# DATA SHEET



**2PB710A**

**PNP general purpose transistor**

Product data sheet  
Supersedes data of 1999 Apr 23

1999 May 31

# PNP general purpose transistor

# 2PB710A

### FEATURES

- High current (max. 500 mA)
- Low voltage (max. 50 V).

### APPLICATIONS

- General purpose switching and amplification.

### DESCRIPTION

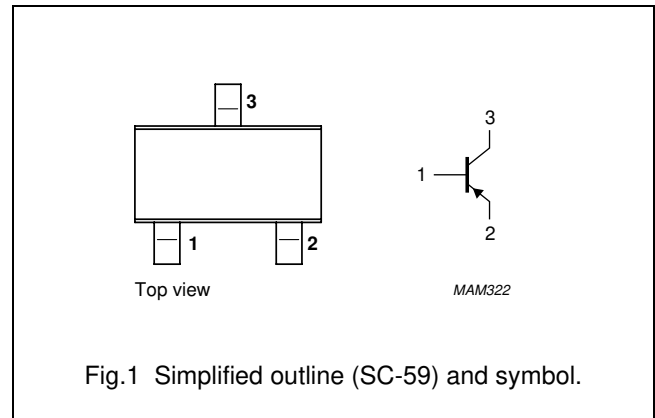
PNP transistor in an SC-59 plastic package.  
NPN complement: 2PD602A.

### MARKING

TYPE NUMBER	MARKING CODE
2PB710AQ	DQ
2PB710AR	DR
2PB710AS	DS

### PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter	–	–60	V
V <sub>CEO</sub>	collector-emitter voltage	open base	–	–50	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.

## PNP general purpose transistor

2PB710A

## 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

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -60\text{ V}$	–	–10	nA
		$I_E = 0; V_{CB} = -60\text{ V}; T_j = 150\text{ °C}$	–	–5	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–10	nA
$h_{FE}$	DC current gain 2PB710AQ 2PB710AR 2PB710AS	$I_C = -150\text{ mA}; V_{CE} = -10\text{ V};$ note 1	85	170	
			120	240	
			170	340	
	DC current gain	$I_C = -500\text{ mA}; V_{CE} = -10\text{ V};$ note 1	40	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -300\text{ mA}; I_B = -30\text{ mA};$ note 1	–	–600	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -300\text{ mA}; I_B = -30\text{ mA};$ note 1	–	–1.5	V
$C_c$	collector capacitance	$I_E = i_e = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	–	15	pF
$f_T$	transition frequency 2PB710AQ 2PB710AR 2PB710AS	$I_C = -50\text{ mA}; V_{CE} = -10\text{ V};$ $f = 100\text{ MHz};$ note 1	100	–	MHz
			120	–	MHz
			140	–	MHz

## Note

1. Pulse test:  $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02.$

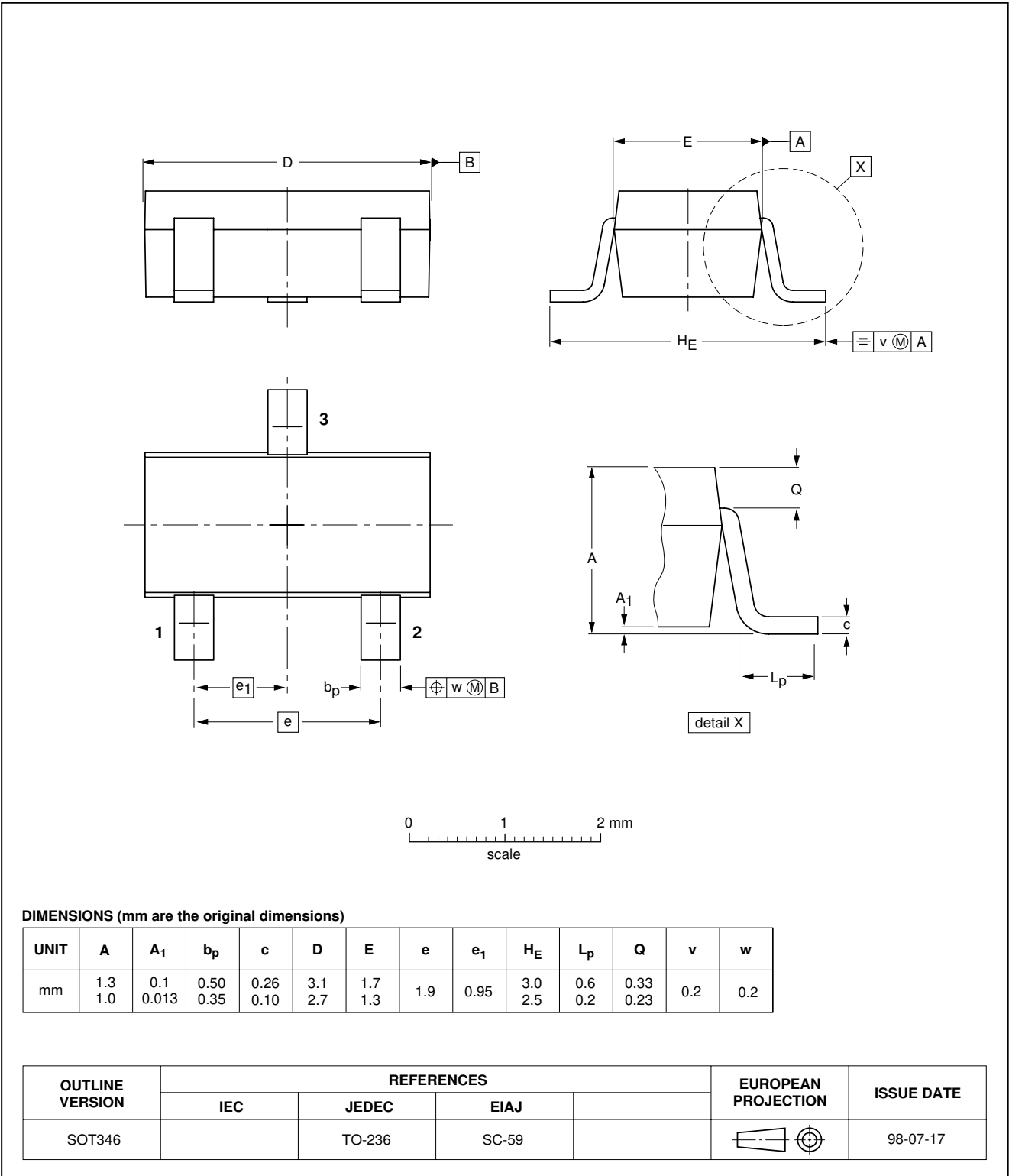
PNP general purpose transistor

2PB710A

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT346



PNP general purpose transistor

2PB710A

**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**

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## **Contact information**

For additional information please visit: **<http://www.nxp.com>**

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