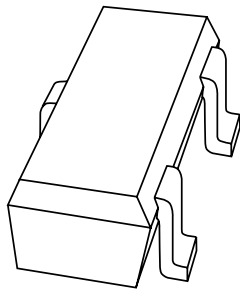


# DATA SHEET



**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

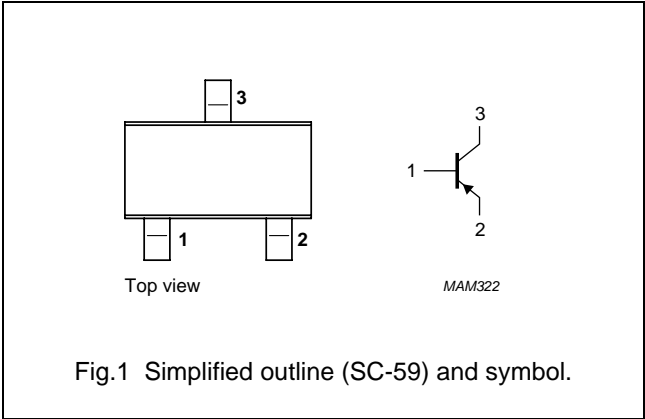
PNP transistor in an SC-59 plastic package.  
NPN complement: 2PD602A.

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	$I_C = -150\text{ mA}; V_{CE} = -10\text{ V}; \text{note 1}$	85	170	
	2PB710AQ				
	2PB710AR				
	2PB710AS				
	DC current gain	$I_C = -500\text{ mA}; V_{CE} = -10\text{ V}; \text{note 1}$	40	—	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -300\text{ mA}; I_B = -30\text{ mA}; \text{note 1}$	—	–600	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -300\text{ mA}; I_B = -30\text{ mA}; \text{note 1}$	—	–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	$I_C = -50\text{ mA}; V_{CE} = -10\text{ V};$ $f = 100\text{ MHz}; \text{note 1}$	100	—	MHz
	2PB710AQ				
	2PB710AR				
	2PB710AS				

## Note

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

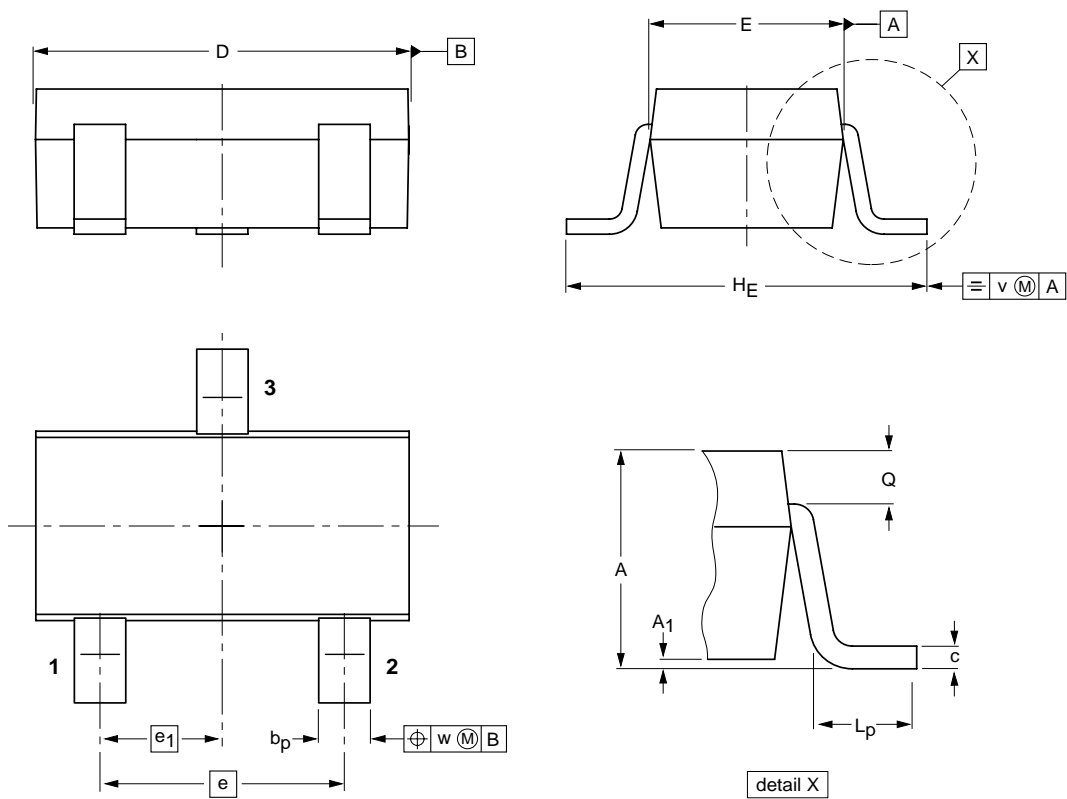
PNP general purpose transistor

2PB710A

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT346



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub>	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.3 1.0	0.1 0.013	0.50 0.35	0.26 0.10	3.1 2.7	1.7 1.3	1.9	0.95	3.0 2.5	0.6 0.2	0.33 0.23	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT346		TO-236	SC-59			98-07-17

## 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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## **Customer notification**

This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

## **Contact information**

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

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