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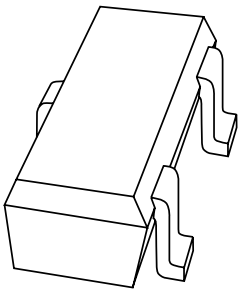
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Kind regards,

Team Nexperia

DATA SHEET



2PB709A
PNP general purpose transistor

Product data sheet
Supersedes data of 1997 Jun 19

1999 Apr 23

NXP founded by Philips

PNP general purpose transistor 2PB709A

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 45 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in an SC-59 plastic package.
NPN complement: 2PB601A.

MARKING

TYPE NUMBER	MARKING CODE
2PB709AQ	BQ
2PB709AR	BR
2PB709AS	BS

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

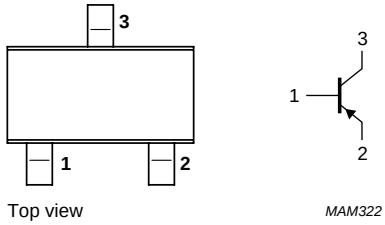


Fig.1 Simplified outline (SC-59) and symbol.

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	−45	V
V_{CEO}	collector-emitter voltage	open base	–	−45	V
V_{EBO}	emitter-base voltage	open collector	–	−6	V
I_C	collector current (DC)		–	−100	mA
I_{CM}	peak collector current		–	−200	mA
I_{BM}	peak base current		–	−100	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °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
$R_{th\ j\text{-}a}$	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 °C unless otherwise specified.

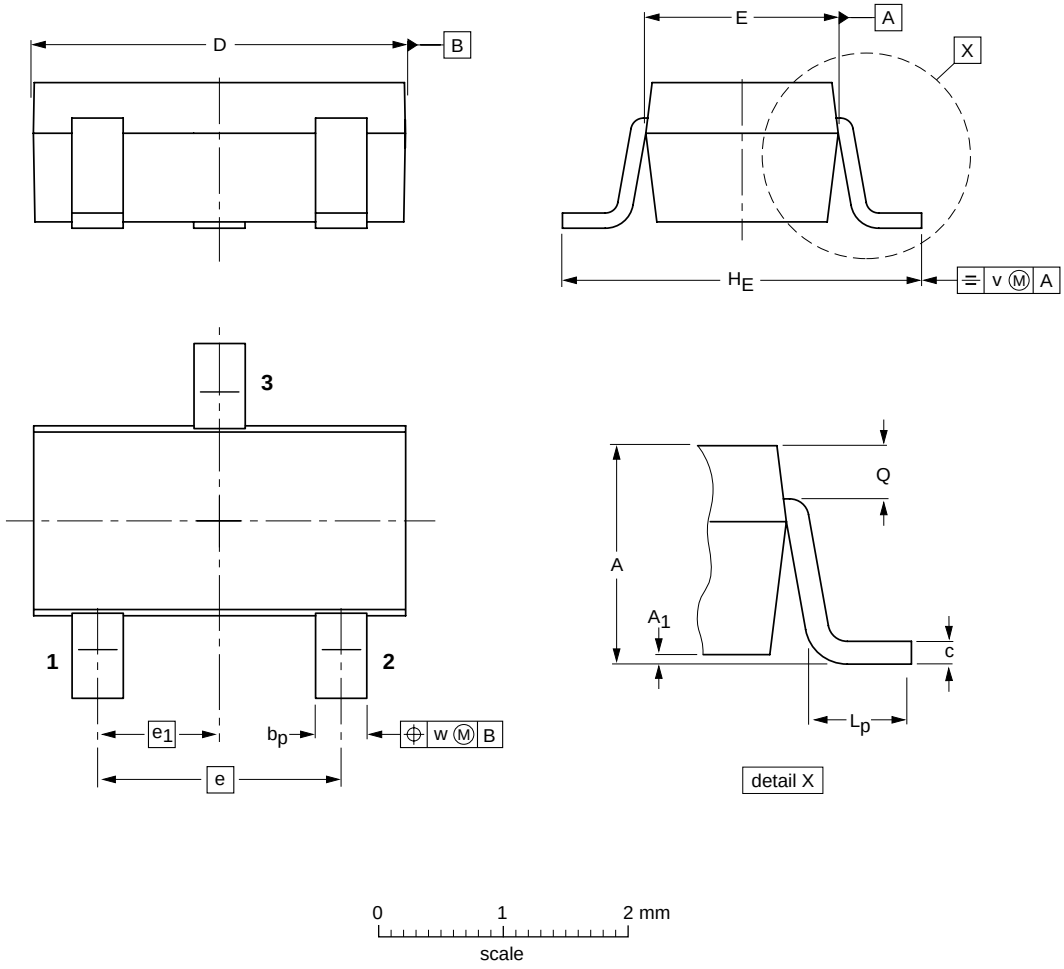
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = −45 V	–	−10	nA
		I_E = 0; V_{CB} = −45 V; T_j = 150 °C	–	−5	μA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = −5 V	–	−10	nA
h_{FE}	DC current gain	I_C = −2 mA; V_{CE} = −10 V			
	2PB709AQ		160	260	
	2PB709AR		210	340	
	2PB709AS		290	460	
V_{CEsat}	collector-emitter saturation voltage	I_C = −100 mA; I_B = −10 mA; note 1	–	−500	mV
C_c	collector capacitance	$I_E = i_e$ = 0; V_{CB} = −10 V; f = 1 MHz	–	5	pF
f_T	transition frequency	I_C = −1 mA; V_{CE} = −10 V; f = 100 MHz			
	2PB709AQ		60	–	MHz
	2PB709AR		70	–	MHz
	2PB709AS		80	–	MHz

Note

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

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT346**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1	b_p	c	D	E	e	e_1	H_E	L_p	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

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.

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NXP Semiconductors

Customer notification

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Contact information

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