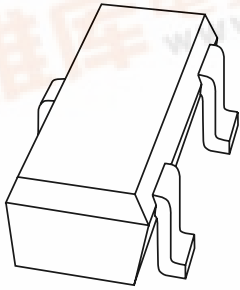


DISCRETE SEMICONDUCTORS

DATA SHEET



2PB709AW

PNP general purpose transistor

Product specification

2002 Jun 26

PNP general purpose transistor**2PB709AW****FEATURES**

- High collector current (max. 100 mA)
- Low collector-emitter saturation voltage (max. 500 mV).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in an SC-70 (SOT323) plastic package.
NPN complement: 2PD601AW

MARKING

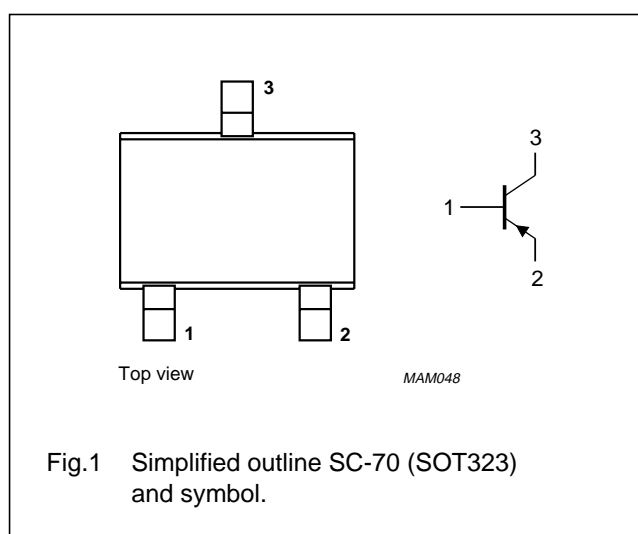
TYPE NUMBER	MARKING CODE ⁽¹⁾
2PB709AQW	N5*
2PB709ARW	N7*
2PB709ASW	N9*

Note

- * = p: made in Hong Kong.
* = t: made in Malaysia.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

**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	–	–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
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; note 1	–	200	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Note

1. For mounting conditions, see “Thermal considerations and footprint design for SOT323 in the General Part of Data Handbook SC18”.

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	625	K/W

Note

- For mounting conditions, see "Thermal considerations and footprint design for SOT323 in the General Part of Data Handbook SC18".

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	$I_E = 0; V_{CB} = -45\text{ V}$	–	–10	nA
		$I_E = 0; V_{CB} = -45\text{ V}; T_j = 150\text{ °C}$	–	–5	μA
I_{EBO}	emitter-base cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–10	nA
h_{FE}	DC current gain 2PB709AQW 2PB709ARW 2PB709ASW	$I_C = -2\text{ mA}; V_{CE} = -10\text{ V}$	160	260	
			210	340	
			290	460	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -10\text{ mA};$ note 1	–	–500	mV
C_c	collector capacitance	$I_E = i_e = 0; V_{CB} = -10\text{ V};$ $f = 1\text{ MHz}$	–	5	pF
f_T	transition frequency 2PB709AQW 2PB709ARW 2PB709ASW	$I_C = -1\text{ mA}; V_{CE} = -10\text{ V};$ $f = 100\text{ MHz}$	60	–	MHz
			70	–	MHz
			80	–	MHz

Note

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

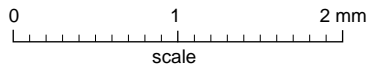
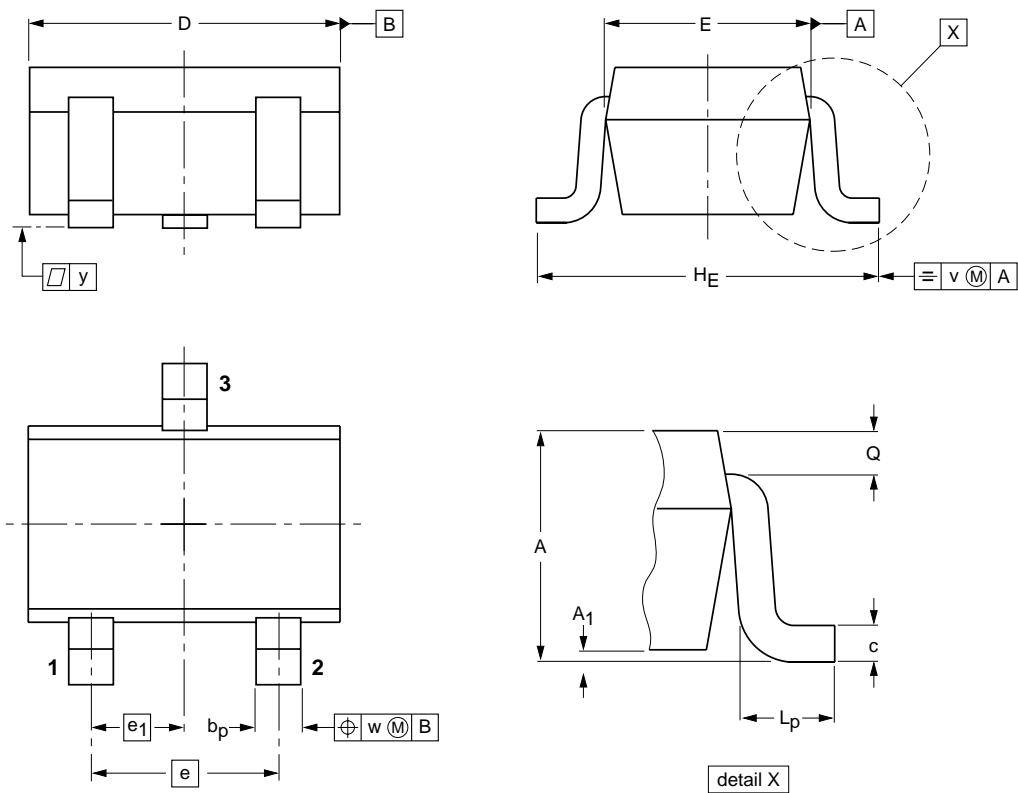
PNP general purpose transistor

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



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 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT323			SC-70			97-02-28

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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NOTES

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NOTES

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