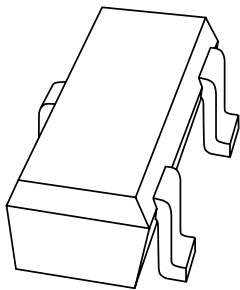


DATA SHEET



2PB709AW

PNP general purpose transistor

Product data sheet

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

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

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} ≤ 25 °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”.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

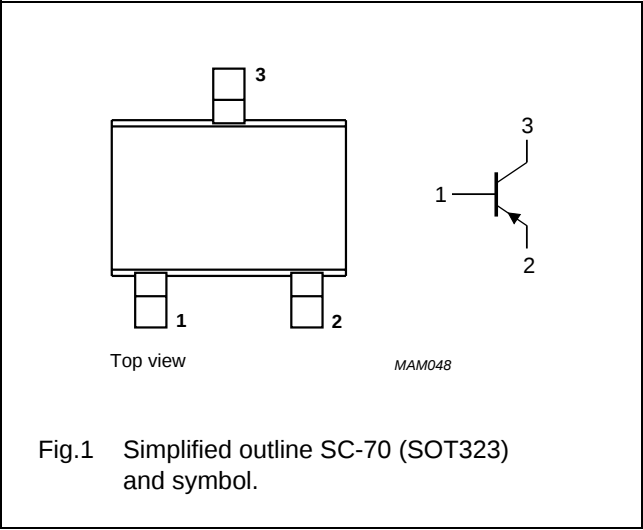


Fig.1 Simplified outline SC-70 (SOT323) and symbol.

PNP general purpose transistor

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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

$T_{amb} = 25\text{ }^{\circ}\text{C}$ 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
		$I_E = 0$; $V_{CB} = -45\text{ V}$; $T_j = 150\text{ }^{\circ}\text{C}$	–	–5	μA
I_{EBO}	emitter-base cut-off current	$I_C = 0$; $V_{EB} = -5\text{ V}$	–	–10	nA
h_{FE}	DC current gain	$I_C = -2\text{ mA}$; $V_{CE} = -10\text{ V}$			
	2PB709AQW		160	260	
	2PB709ARW		210	340	
	2PB709ASW		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	$I_E = I_C = 0$; $V_{CB} = -10\text{ V}$; $f = 1\text{ MHz}$	–	5	pF
f_T	transition frequency	$I_C = -1\text{ mA}$; $V_{CE} = -10\text{ V}$; $f = 100\text{ MHz}$			
	2PB709AQW		60	–	MHz
	2PB709ARW		70	–	MHz
	2PB709ASW		80	–	MHz

Note

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

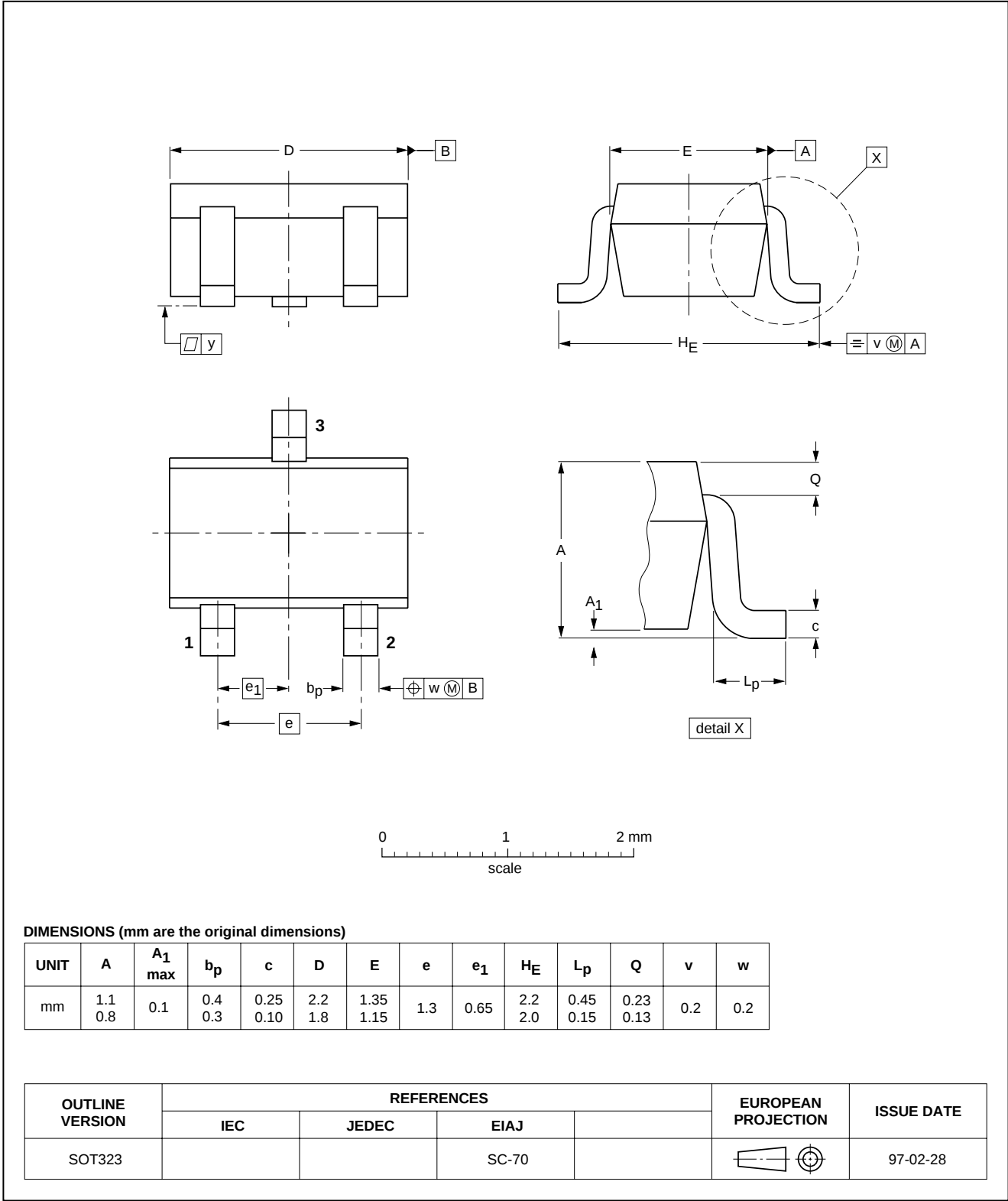
PNP general purpose transistor

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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



PNP general purpose transistor

2PB709AW

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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2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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