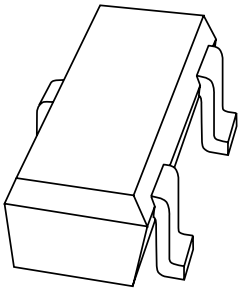
DATA SHEET



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.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

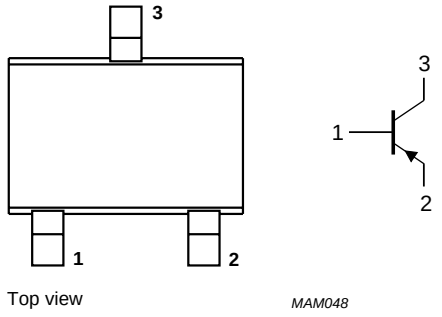


Fig.1 Simplified outline SC-70 (SOT323) and symbol.

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	$T_{amb} \leq 25$ °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".*

THERMAL CHARACTERISTICS

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

Note

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

CHARACTERISTICS

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

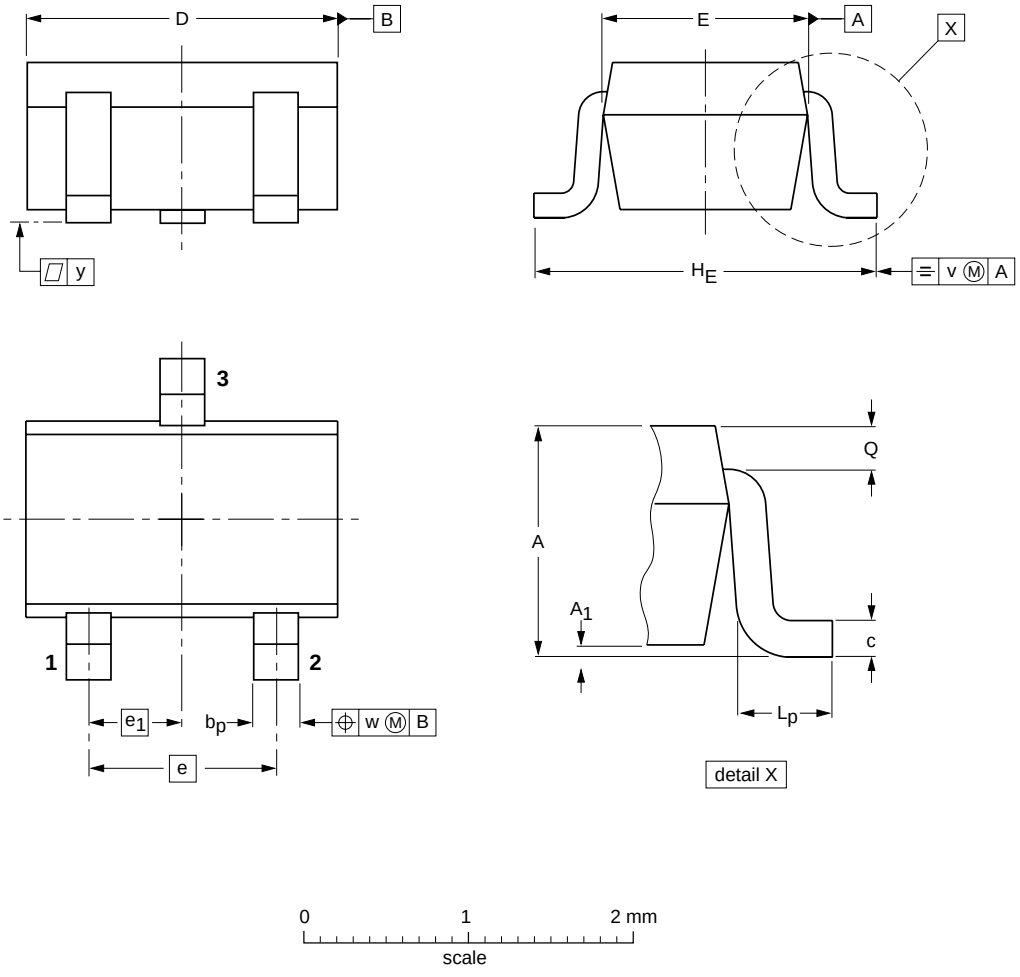
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	I_E = 0; V_{CB} = –45 V	–	–10	nA
		I_E = 0; V_{CB} = –45 V; T_j = 150 °C	–	–5	μA
I_{EBO}	emitter-base cut-off current	I_C = 0; V_{EB} = –5 V	–	–10	nA
h_{FE}	DC current gain	I_C = –2 mA; V_{CE} = –10 V			
	2PB709AQW		160	260	
	2PB709ARW		210	340	
	2PB709ASW		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			
	2PB709AQW		60	–	MHz
	2PB709ARW		70	–	MHz
	2PB709ASW		80	–	MHz

Note

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

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

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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