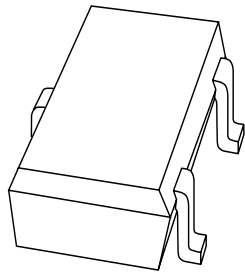


# DATA SHEET



## **2PB1219A** PNP general purpose transistor

Product specification  
Supersedes data of 1997 Mar 25

1999 Apr 12

## PNP general purpose transistor

2PB1219A

## FEATURES

- High current (max. 500 mA)
- Low voltage (max. 50 V)
- Low collector-emitter saturation voltage (max. 600 mV).

## APPLICATIONS

- General purpose switching and amplification.

## DESCRIPTION

PNP transistor in a SOT323; SC70 plastic package.  
NPN complement: 2PD1820A.

## MARKING

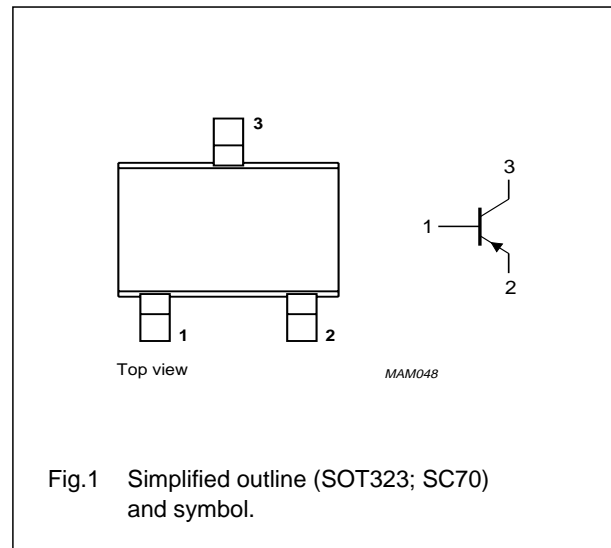
TYPE NUMBER	MARKING CODE <sup>(1)</sup>
2PB1219AQ	D*Q
2PB1219AR	D*R
2PB1219AS	D*S

## Note

- \* = - : 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 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage	open emitter	-	-60	V
$V_{CEO}$	collector-emitter voltage	open base	-	-50	V
$V_{EBO}$	emitter-base voltage	open collector	-	-5	V
$I_C$	collector current (DC)		-	-500	mA
$I_{CM}$	peak collector current		-	-1	A
$I_{BM}$	peak base current		-	-200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$ ; note 1	-	200	mW
$T_{stg}$	storage temperature		-65	+150	$^\circ\text{C}$
$T_j$	junction temperature		-	150	$^\circ\text{C}$
$T_{amb}$	operating ambient temperature		-65	+150	$^\circ\text{C}$

## Note

1. Refer to SOT323; SC70 standard mounting conditions.

## 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

1. Refer to SOT323; SC70 standard mounting conditions.

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -20\text{ V}$	–	–100	nA
		$I_E = 0; V_{CB} = -20\text{ V}; T_j = 150\text{ °C}$	–	–5	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -4\text{ V}$	–	–100	nA
$h_{FE}$	DC current gain 2PB1219AQ 2PB1219AR 2PB1219AS	$I_C = -150\text{ mA}; V_{CE} = -10\text{ V};$ note 1	85	170	
			120	240	
			170	340	
$h_{FE}$	DC current gain	$I_C = -500\text{ mA}; V_{CE} = -10\text{ V};$ note 1	40	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -300\text{ mA}; I_B = -30\text{ mA};$ note 1	–	–600	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -300\text{ mA}; I_B = -30\text{ mA};$ 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 2PB1219AQ 2PB1219AR 2PB1219AS	$I_C = 50\text{ mA}; V_{CE} = -10\text{ V};$ $f = 100\text{ MHz};$ note 1	100	–	MHz
			120	–	MHz
			140	–	MHz

## Note

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

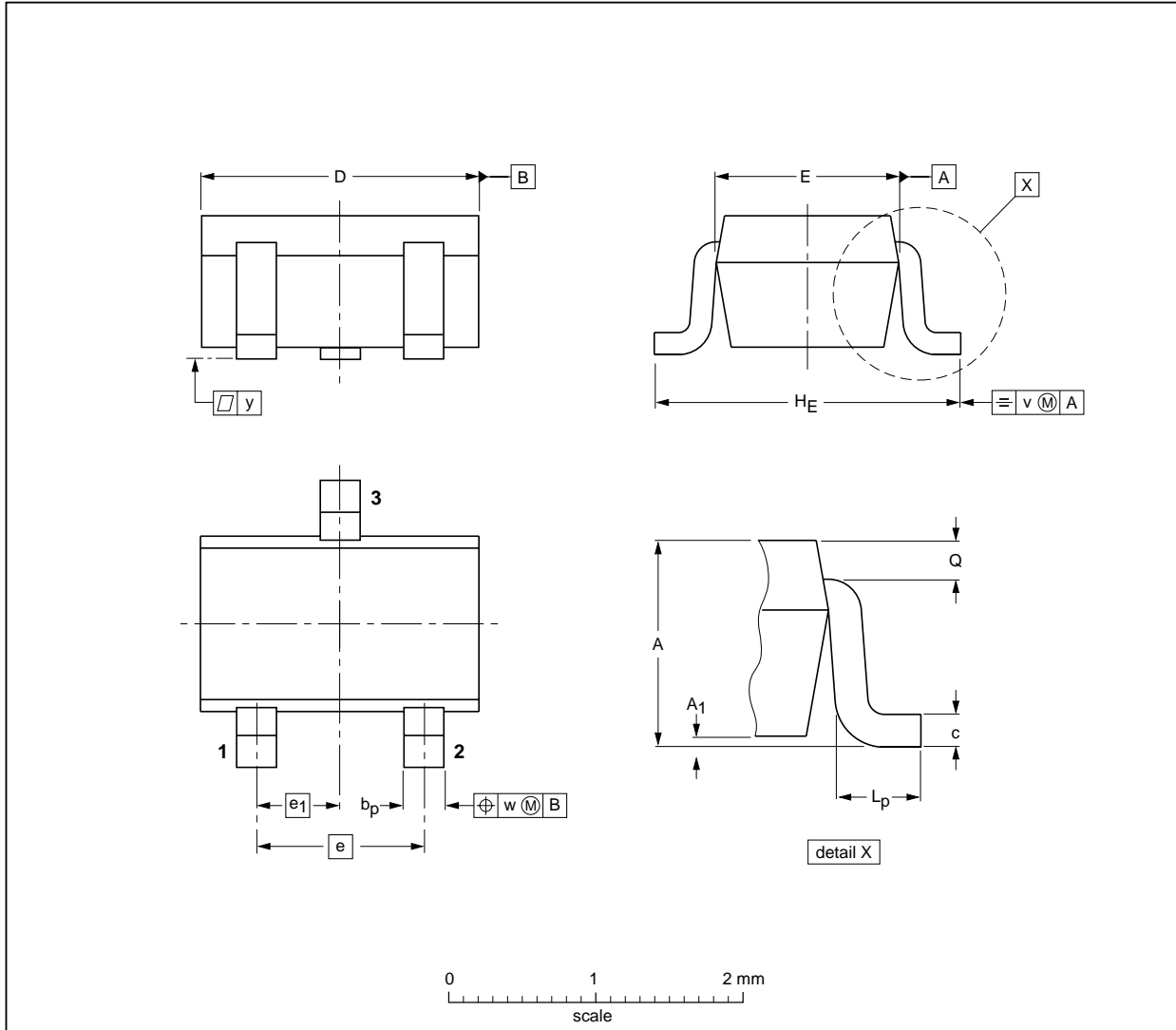
PNP general purpose transistor

2PB1219A

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 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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**PNP general purpose transistor****2PB1219A**

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**DEFINITIONS**

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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PNP general purpose transistor

2PB1219A

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**NOTES**

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PNP general purpose transistor

2PB1219A

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**NOTES**

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