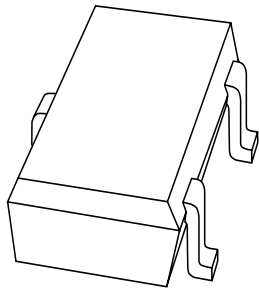


DATA SHEET



2PB1219A

PNP general purpose transistor

Product data sheet
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

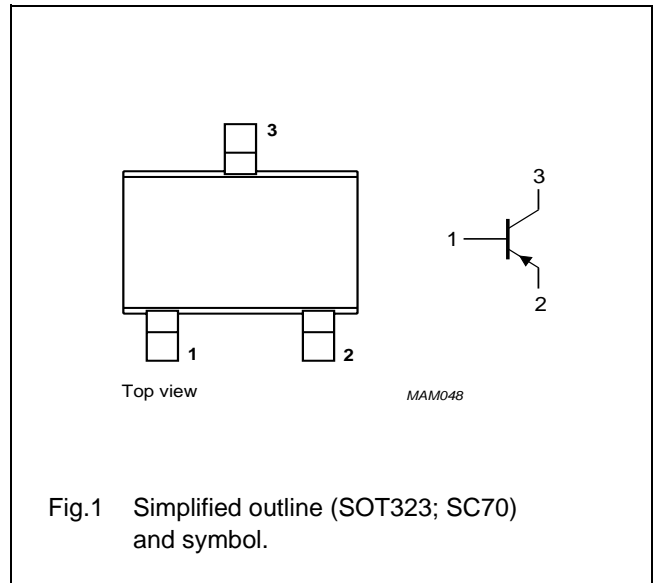
| TYPE NUMBER | MARKING CODE ⁽¹⁾ |
|-------------|-----------------------------|
| 2PB1219AQ | D*Q |
| 2PB1219AR | D*R |
| 2PB1219AS | D*S |

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.

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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 | μA |
| 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: $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02.$

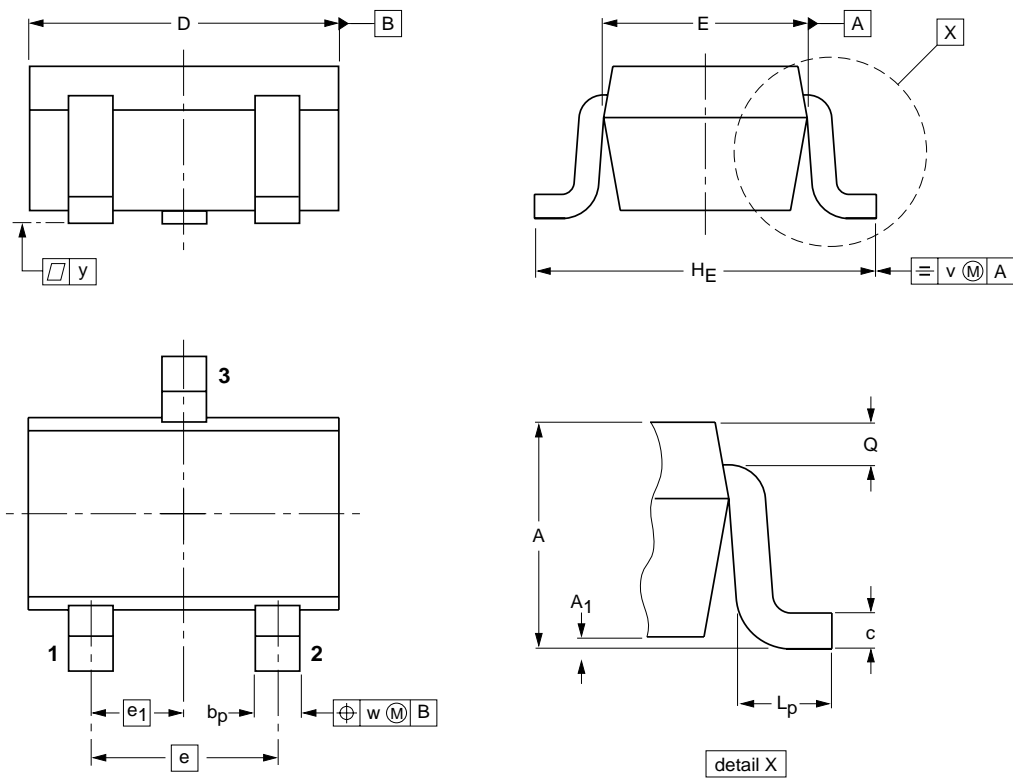
PNP general purpose transistor

2PB1219A

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A 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 |

PNP general purpose transistor

2PB1219A

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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Printed in The Netherlands

115002/00/03/pp6

Date of release: 1999 Apr 12

Document order number: 9397 750 05589

