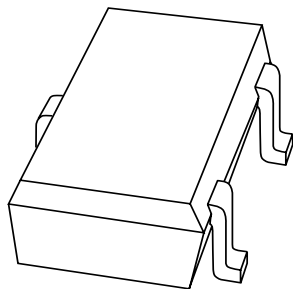


DATA SHEET



2PA1576

PNP general purpose transistor

Product specification
Supersedes data of 1997 Mar 28

1999 May 31

PNP general purpose transistor

2PA1576

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 40 V)
- Low collector capacitance (typ. 2.5 pF).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in a SC-70 (SOT323) plastic package.
NPN complement: 2PC4081.

MARKING

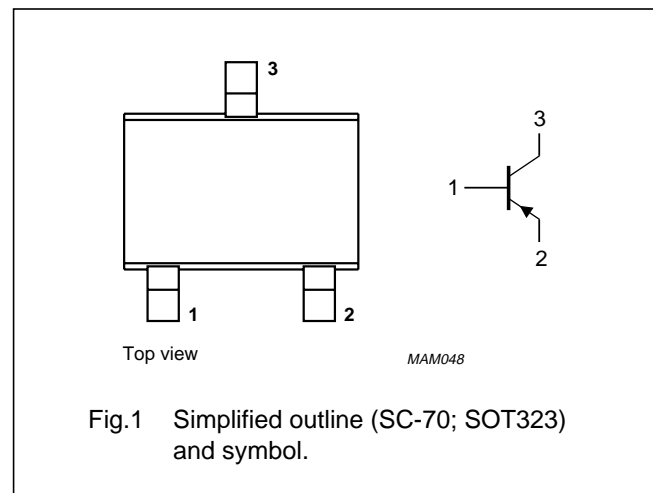
| TYPE NUMBER | MARKING CODE ⁽¹⁾ |
|-------------|-----------------------------|
| 2PA1576Q | F*Q |
| 2PA1576R | F*R |
| 2PA1576S | F*S |

Note

1. * = -: 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 | - | -50 | V |
| V _{CEO} | collector-emitter voltage | open base | - | -40 | V |
| V _{EBO} | emitter-base voltage | open collector | - | -5 | V |
| I _C | collector current (DC) | | - | -100 | mA |
| I _{CM} | peak collector current | | - | -200 | mA |
| I _{BM} | peak base 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. Refer to SC-70 (SOT323) standard mounting conditions.

PNP general purpose transistor

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THERMAL CHARACTERISTICS

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

Note

1. Refer to SC-70 (SOT323) standard mounting conditions.

CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT | | | | |
|-------------|---------------------------|---|------|------|------|---------------|----------|-----|---|-----|
| I_{CBO} | collector cut-off current | $I_E = 0; V_{CB} = -30\text{ V}$ | – | – | –100 | nA | | | | |
| | | $I_E = 0; V_{CB} = -30\text{ V}; T_j = 150\text{ °C}$ | – | – | –5 | μA | | | | |
| I_{EBO} | emitter cut-off current | $I_C = 0; V_{EB} = -4\text{ V}$ | – | – | –100 | nA | | | | |
| h_{FE} | DC current gain | $I_C = -1\text{ mA}; V_{CE} = -6\text{ V}$ | | | | | | | | |
| | | | | | | | 2PA1576Q | 120 | – | 270 |
| | | | | | | | 2PA1576R | 180 | – | 390 |
| | 2PA1576S | 270 | – | 560 | | | | | | |
| V_{CEsat} | saturation voltage | $I_C = -50\text{ mA}; I_B = -5\text{ mA}; \text{note 1}$ | – | – | –500 | mV | | | | |
| C_c | collector capacitance | $I_E = I_e = 0; V_{CB} = -12\text{ V}; f = 1\text{ MHz}$ | – | 2.5 | 3.5 | pF | | | | |
| f_T | transition frequency | $I_C = -2\text{ mA}; V_{CE} = -12\text{ V}; f = 100\text{ MHz}$ | 100 | – | – | MHz | | | | |

Note

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

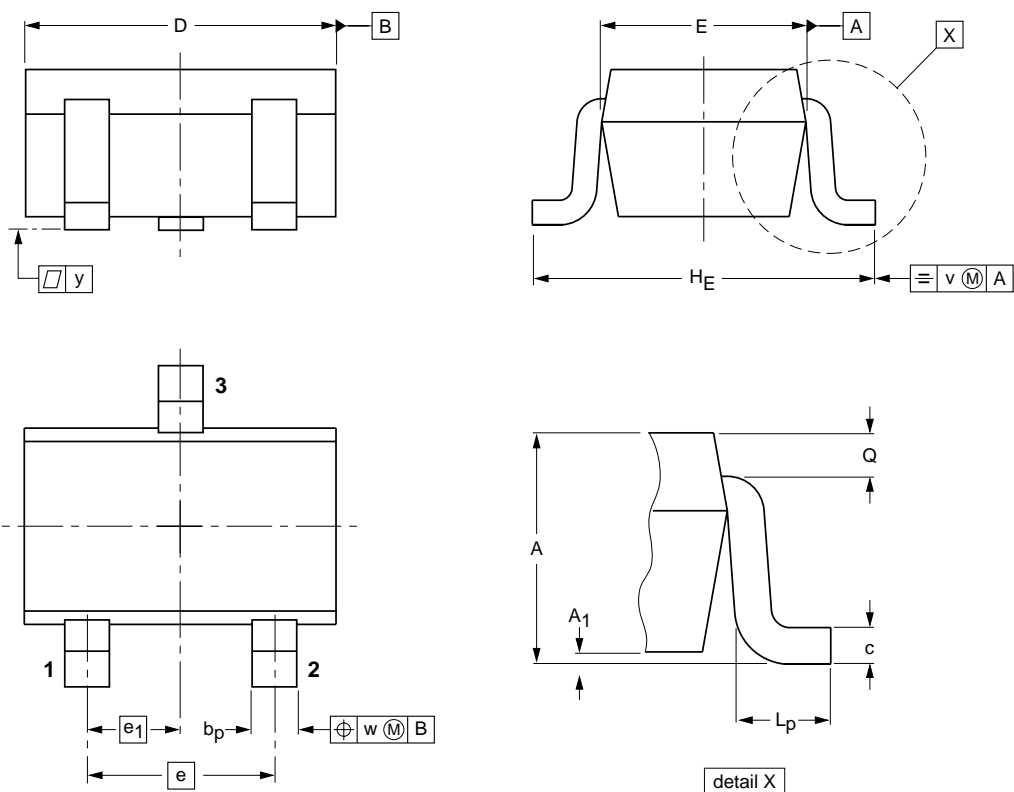
PNP general purpose transistor

2PA1576

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

2PA1576

DEFINITIONS

| | |
|---|---|
| Data sheet status | |
| 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. |
| Limiting values | |
| 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. | |
| Application information | |
| Where application information is given, it is advisory and does not form part of the specification. | |

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PNP general purpose transistor

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NOTES

PNP general purpose transistor

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NOTES

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