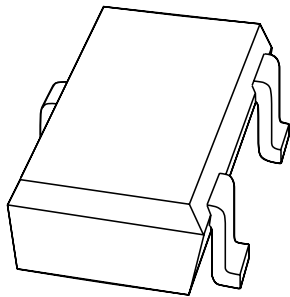


DATA SHEET



PMSTA55; PMSTA56 PNP general purpose transistors

Product specification
File under Discrete Semiconductors, SC04

1997 Jun 02

PNP general purpose transistors

PMSTA55; PMSTA56

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 80 V).

APPLICATIONS

- Intended for telephony and professional communication equipment.

DESCRIPTION

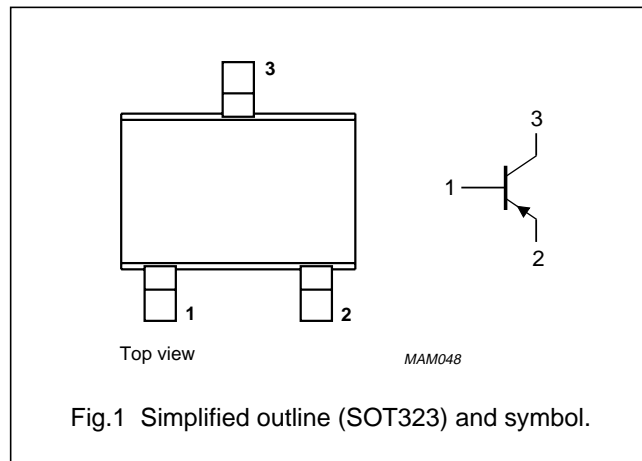
PNP transistor in a SOT323 plastic package.
NPN complements: PMSTA05 and PMSTA06.

MARKING

| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| PMSTA55 | t2H |
| PMATA56 | t2G |

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | base |
| 2 | emitter |
| 3 | collector |



QUICK REFERENCE DATA

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------|---------------------------|----------------------------------------------|------|------|------|
| V_{CBO} | collector-base voltage | open emitter | | | |
| | PMSTA55 | | – | –60 | V |
| | PMSTA56 | | – | –80 | V |
| V_{CEO} | collector-emitter voltage | open base | | | |
| | PMSTA55 | | – | –60 | V |
| | PMSTA56 | | – | –80 | V |
| I_{CM} | peak collector current | | – | –500 | mA |
| P_{tot} | total power dissipation | $T_{amb} \leq 25\text{ }^\circ\text{C}$ | – | 200 | mW |
| h_{FE} | DC current gain | $I_C = -100\text{ mA}; V_{CE} = -1\text{ V}$ | 50 | – | |
| f_T | transition frequency | $I_C = -100\text{ mA}; V_{CE} = -1\text{ V}$ | 50 | – | MHz |

PNP general purpose transistors

PMSTA55; PMSTA56

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 | | | |
| | PMSTA55 | | – | –60 | V |
| | PMSTA56 | | – | –80 | V |
| V _{CEO} | collector-emitter voltage | open base | | | |
| | PMSTA55 | | – | –60 | V |
| | PMSTA56 | | – | –80 | V |
| V _{EBO} | emitter-base voltage | open collector | – | –4 | V |
| I _C | collector current (DC) | | – | –500 | mA |
| I _{CM} | peak collector current | | – | –500 | mA |
| I _{BM} | peak base current | | – | –500 | 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. Transistor mounted on an FR4 printed-circuit board.

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---------------------|---------------------------------------------|------------|-------|------|
| R _{th j-a} | thermal resistance from junction to ambient | note 1 | 625 | K/W |

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|--------------------|--------------------------------------|---------------------------------------------------------------|------|------|------|
| I _{CBO} | collector cut-off current | | | | |
| | PMSTA55 | I _E = 0; V _{CB} = –60 V | – | –100 | nA |
| | PMSTA56 | I _E = 0; V _{CB} = –80 V | – | –100 | nA |
| I _{EBO} | emitter cut-off current | I _C = 0; V _{EB} = –4 V | – | –500 | nA |
| h _{FE} | DC current gain | I _C = –10 mA; V _{CE} = –1 V | 50 | – | |
| | | I _C = –100 mA; V _{CE} = –1 V; note 1 | 50 | – | |
| V _{CEsat} | collector-emitter saturation voltage | I _C = –100 mA; I _B = –10 mA | – | –250 | mV |
| V _{BE} | base-emitter voltage | I _C = –100 mA; V _{CE} = –1 V; note 1 | – | –1.2 | mV |
| f _T | transition frequency | I _C = –100 mA; V _{CE} = –1 V; f = 100 MHz | 50 | – | MHz |

Note

1. Pulse test: t_p ≤ 300 μs; δ ≤ 0.02.

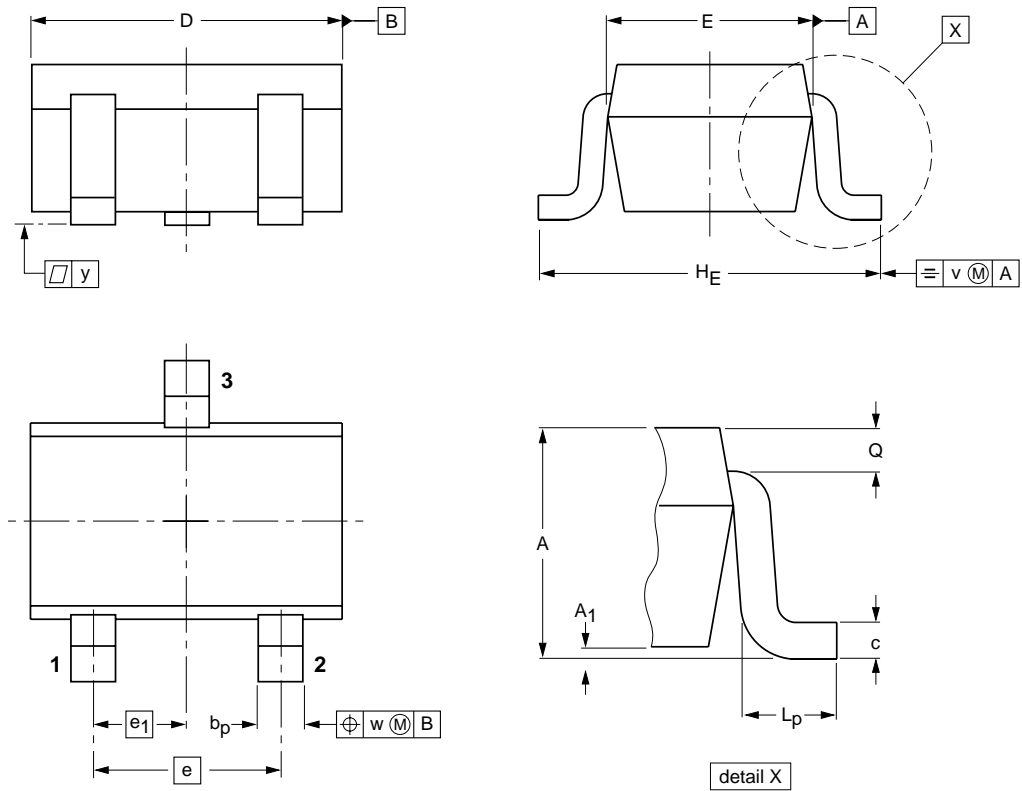
PNP general purpose transistors

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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 transistors

PMSTA55; PMSTA56

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 transistors

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NOTES

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NOTES

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