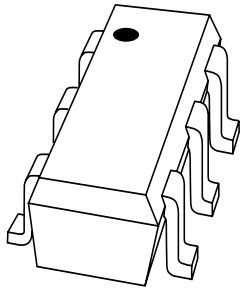


DATA SHEET



PUMT1 PNP general purpose double transistor

Product data sheet
Supersedes data of 1999 Apr 14

2001 Dec 19

PNP general purpose double transistor

PUMT1

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 40 V)
- Reduces number of components and boardspace.

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

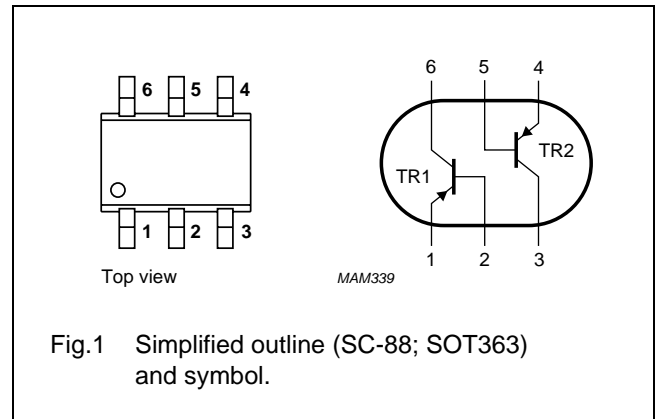
Two independently operating PNP transistors in an SC-88; SOT363 plastic package. NPN complement: PUMX1.

MARKING

| TYPE NUMBER | MARKING CODE |
|-------------|--------------|
| PUMT1 | FtF |

PINNING

| PIN | DESCRIPTION |
|------|--------------------|
| 1, 4 | emitter TR1; TR2 |
| 2, 5 | base TR1; TR2 |
| 3, 6 | collector TR2; TR1 |



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------------------|-------------------------------|--------------------------------------|------|------|------|
| Per transistor | | | | | |
| 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 | $T_{amb} \leq 25\text{ °C}$ | – | 200 | mW |
| T_{stg} | storage temperature | | –65 | +150 | °C |
| T_j | junction temperature | | – | 150 | °C |
| T_{amb} | operating ambient temperature | | –65 | +150 | °C |
| Per device | | | | | |
| P_{tot} | total power dissipation | $T_{amb} \leq 25\text{ °C}$; note 1 | – | 300 | mW |

Note

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

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THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-------------------|---|------------|-------|------|
| Per device | | | | |
| $R_{th\ j-a}$ | thermal resistance from junction to ambient | note 1 | 416 | K/W |

Note

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

CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|-----------------------|--------------------------------------|---|------|------|---------------|
| Per transistor | | | | | |
| I_{CBO} | collector cut-off current | $I_E = 0; V_{CB} = -30\text{ V}$ | – | –100 | nA |
| | | $I_E = 0; V_{CB} = -30\text{ V}; T_j = 150\text{ °C}$ | – | –10 | μA |
| I_{EBO} | emitter cut-off current | $I_C = 0; V_{EB} = -4\text{ V}$ | – | –100 | nA |
| h_{FE} | DC current gain | $I_C = -1\text{ mA}; V_{CE} = -6\text{ V}$ | 120 | – | |
| V_{CEsat} | collector-emitter saturation voltage | $I_C = 50\text{ mA}; I_B = -5\text{ mA}; \text{note 1}$ | – | –200 | mV |
| C_c | collector capacitance | $I_E = i_e = 0; V_{CB} = -12\text{ V}; f = 1\text{ MHz}$ | – | 2.2 | 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: $t_p \leq 300\ \mu\text{s}$; $\delta \leq 0.02$.

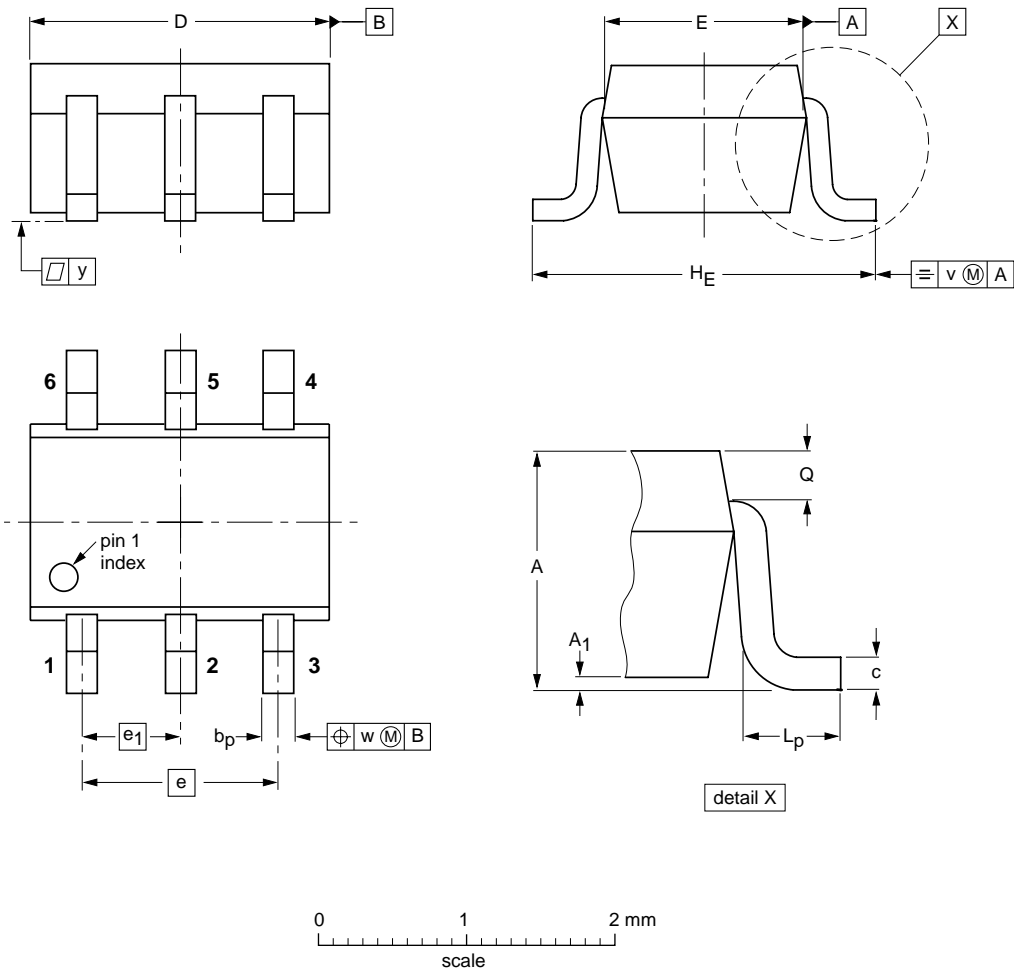
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT363



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 | y |
|------|------------|-----------------------|----------------|--------------|------------|--------------|-----|----------------|----------------|----------------|--------------|-----|-----|-----|
| mm | 1.1 0.8 | 0.1 | 0.30 0.20 | 0.25 0.10 | 2.2 1.8 | 1.35 1.15 | 1.3 | 0.65 | 2.2 2.0 | 0.45 0.15 | 0.25 0.15 | 0.2 | 0.2 | 0.1 |

| OUTLINE VERSION | REFERENCES | | | | EUROPEAN PROJECTION | ISSUE DATE |
|--------------------|------------|-------|-------|--|------------------------|------------|
| | IEC | JEDEC | EIAJ | | | |
| SOT363 | | | SC-88 | | | 97-02-28 |

PNP general purpose double transistor

PUMT1

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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