

# DATA SHEET



## **PENT1** PNP general purpose double transistor

Product data sheet  
Supersedes data of 2001 Sep 25

2001 Nov 07

# PNP general purpose double transistor

# PEMT1

### FEATURES

- 300 mW total power dissipation
- Very small 1.6 × 1.2 mm ultra thin package
- Self alignment during soldering due to straight leads
- Replaces two SC-75/SC-89 packaged transistors on same PCB area
- Reduced required PCB area
- Reduced pick and place costs.

### APPLICATIONS

- General purpose switching and amplification.

### DESCRIPTION

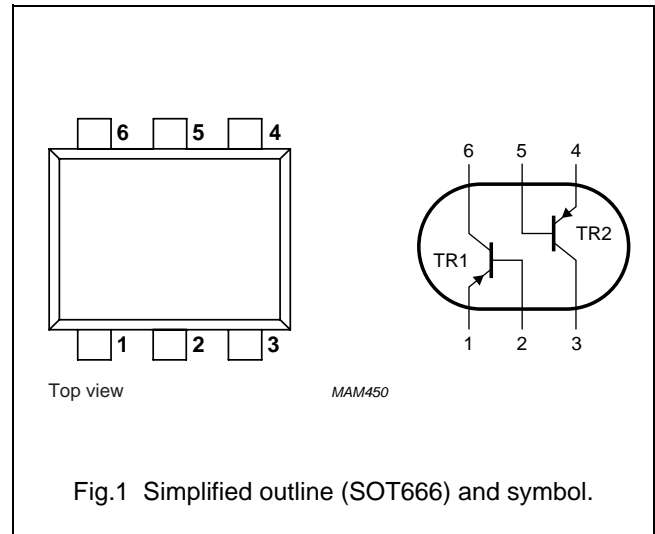
PNP transistor pair in a SOT666 plastic package.  
NPN complement: PEMX1.

### MARKING

TYPE NUMBER	MARKING CODE
PEMT1	FF

### PINNING

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



### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per transistor</b>					
V <sub>CB0</sub>	collector-base voltage	open emitter	–	–50	V
V <sub>CEO</sub>	collector-emitter voltage	open base	–	–40	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	–5	V
I <sub>C</sub>	collector current (DC)		–	–100	mA
I <sub>CM</sub>	peak collector current		–	–200	mA
I <sub>BM</sub>	peak base current		–	–200	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	200	mW
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C
T <sub>amb</sub>	operating ambient temperature		–65	+150	°C
<b>Per device</b>					
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	300	mW

### Note

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

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**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	notes 1 and 2	416	K/W

**Notes**

1. Transistor mounted on an FR4 printed-circuit board.
2. The only recommended soldering is reflow soldering.

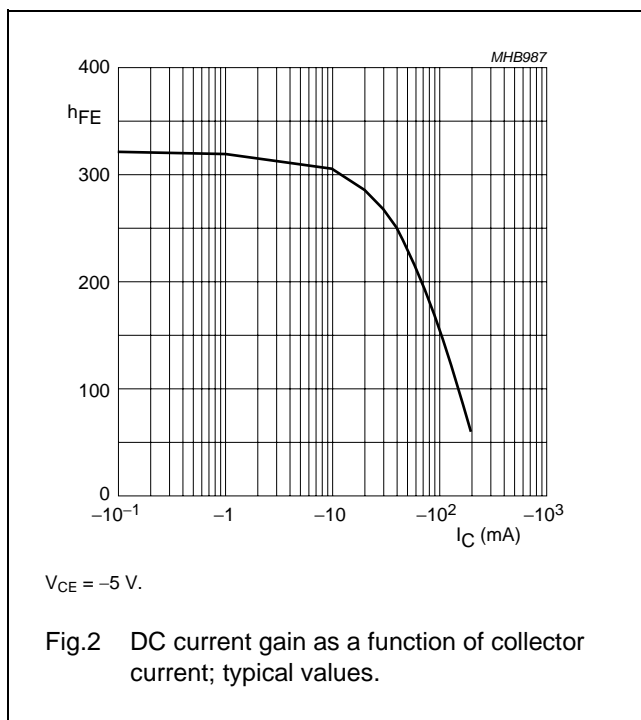
**CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per transistor</b>					
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -30\text{ V}; I_E = 0$	-	-100	nA
		$V_{CB} = -30\text{ V}; I_E = 0; T_j = 150\text{ °C}$	-	-10	$\mu\text{A}$
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -4\text{ V}; I_C = 0$	-	-100	nA
$h_{FE}$	DC current gain	$V_{CE} = -6\text{ V}; I_C = -1\text{ mA}$	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	$V_{CB} = -12\text{ V}; I_E = I_e = 0; f = 1\text{ MHz}$	-	2.2	pF
$f_T$	transition frequency	$V_{CE} = -12\text{ V}; I_C = -2\text{ mA}; f = 100\text{ MHz}$	100	-	MHz

**Note**

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



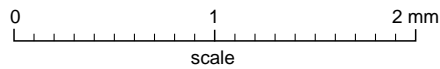
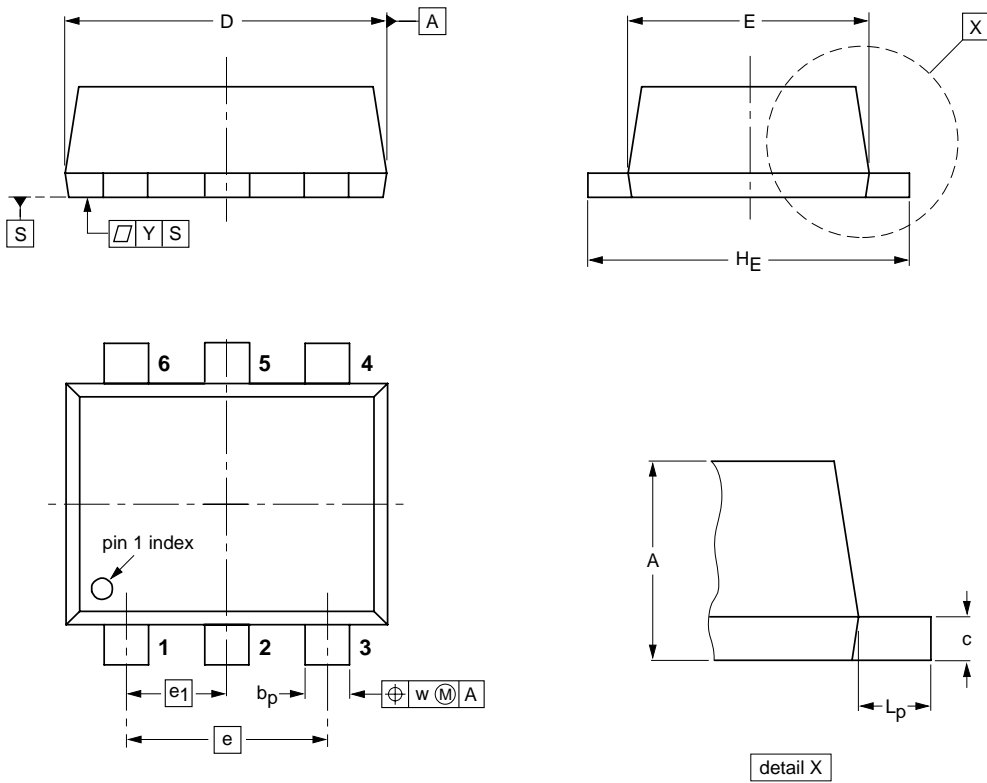
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



DIMENSIONS (mm are the original dimensions)

UNIT	A	$b_p$	c	D	E	e	$e_1$	$H_E$	$L_p$	w	y
mm	0.6 0.5	0.27 0.17	0.18 0.08	1.7 1.5	1.3 1.1	1.0	0.5	1.7 1.5	0.3 0.1	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT666						01-01-04 01-08-27

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## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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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## **Contact information**

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