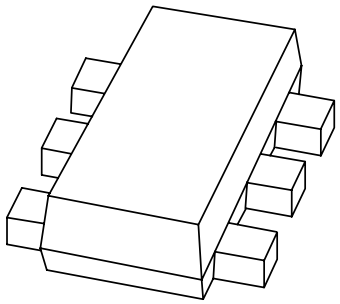
DATA SHEET



PEMT1
PNP general purpose double transistor

Product specification
Supersedes data of 2001 Sep 25

2001 Nov 07

Philips
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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

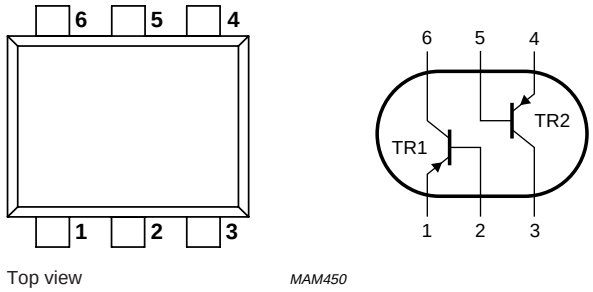


Fig.1 Simplified outline (SOT666) and symbol.

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	$T_{amb} \leq 25$ °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
Per device					
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	300	mW

Note

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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	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.

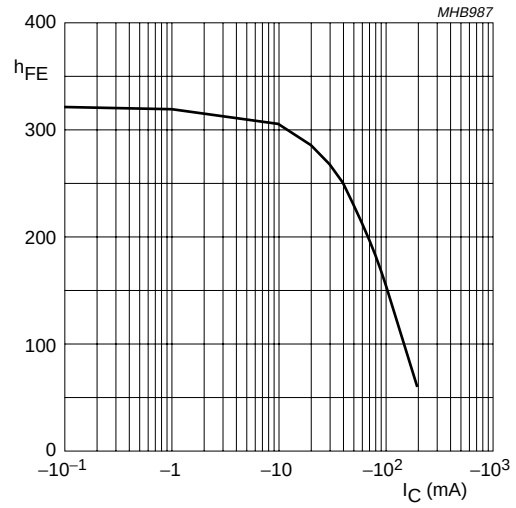
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per transistor					
I_{CBO}	collector-base cut-off current	V_{CB} = –30 V; I_E = 0	–	–100	nA
		V_{CB} = –30 V; I_E = 0; T_j = 150 °C	–	–10	µA
I_{EBO}	emitter-base cut-off current	V_{EB} = –4 V; I_C = 0	–	–100	nA
h_{FE}	DC current gain	V_{CE} = –6 V; I_C = –1 mA	120	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = –50 mA; I_B = –5 mA; note 1	–	–200	mV
C_c	collector capacitance	V_{CB} = –12 V; I_E = I_e = 0; f = 1 MHz	–	2.2	pF
f_T	transition frequency	V_{CE} = –12 V; I_C = –2 mA; f = 100 MHz	100	–	MHz

Note

1. Pulse test: $t_p \leq 300$ µs; $\delta \leq 0.02$.

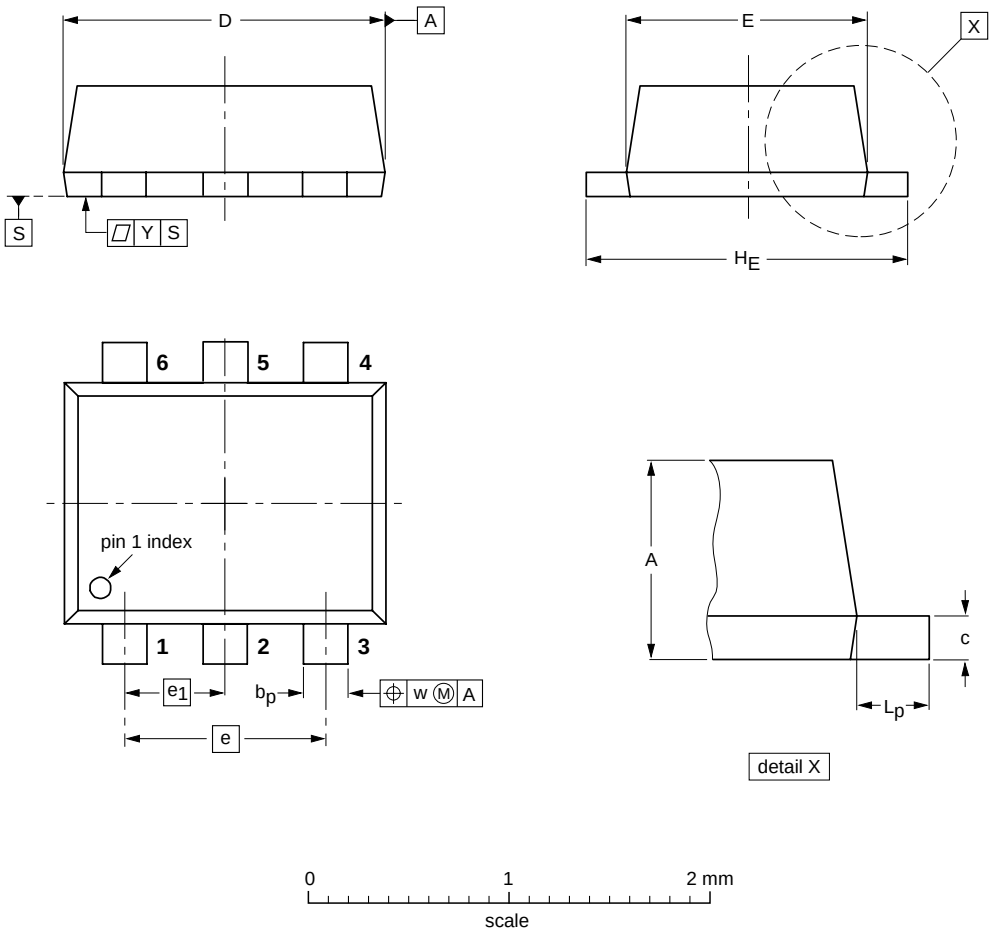


V_{CE} = –5 V.

Fig.2 DC current gain as a function of collector current; typical values.

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

DATA SHEET STATUS

DATA SHEET STATUS[1]	PRODUCT STATUS[2]	DEFINITIONS
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