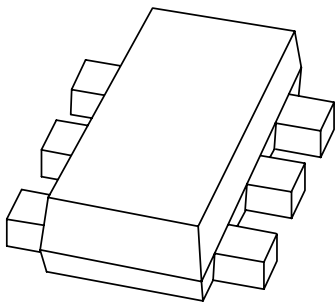


DATA SHEET



PEMB13

PNP resistor-equipped transistors;
R1 = 4.7 k Ω , R2 = 47 k Ω

Preliminary specification

2002 Jan 14

**PNP resistor-equipped transistors;
R1 = 4.7 kΩ, R2 = 47 kΩ**

PEMB13

FEATURES

- 300 mW total power dissipation
- Very small 1.6 mm × 1.2 mm × 0.55 mm ultra thin package
- Improved thermal behaviour due to flat leads
- Self alignment during soldering due to straight leads
- Replaces two SC-75/SC-89 packaged transistors on same PCB area
- Reduces required PCB area
- Reduced pick and place costs.

APPLICATIONS

- General purpose switching and amplification
- Inverter and interface circuits
- Circuit driver.

DESCRIPTION

PNP resistor-equipped transistors in a SOT666 plastic package.

MARKING

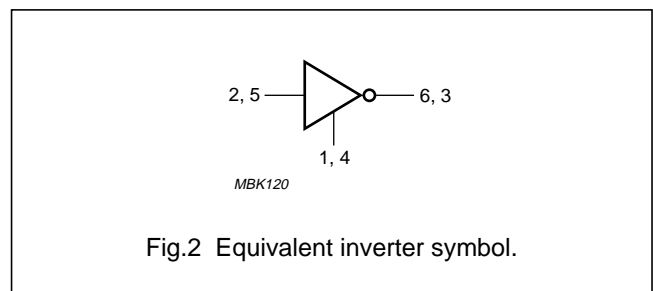
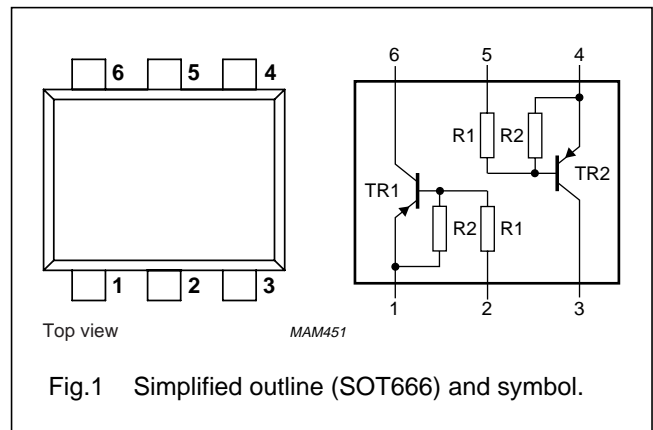
TYPE NUMBER	MARKING CODE
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QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V _{CEO}	collector-emitter voltage	-50	V
I _{CM}	peak collector current	-100	mA
TR1	PNP	-	-
TR2	PNP	-	-
R1	bias resistor	4.7	kΩ
R2	bias resistor	47	kΩ

PINNING

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



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LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per transistor unless otherwise specified					
V _{CB0}	collector-base voltage	open emitter	–	–50	V
V _{CEO}	collector-emitter voltage	open base	–	–50	V
V _{EBO}	emitter-base voltage	open collector	–	–10	V
V _I	input voltage		–	+5	V
			–	–30	V
I _O	output current (DC)		–	–100	mA
I _{CM}	peak collector current		–	–100	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
Per device					
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	300	mW

Note

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

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 method is reflow soldering.

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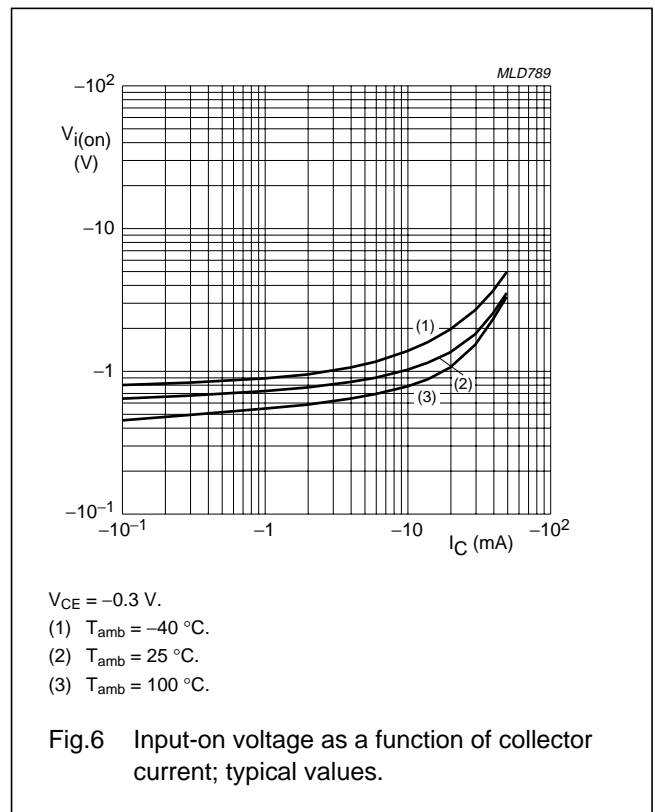
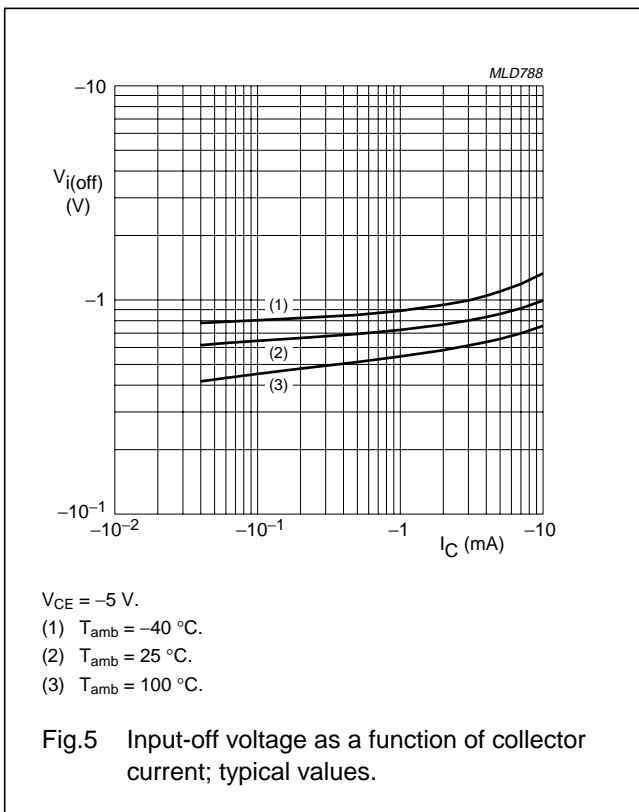
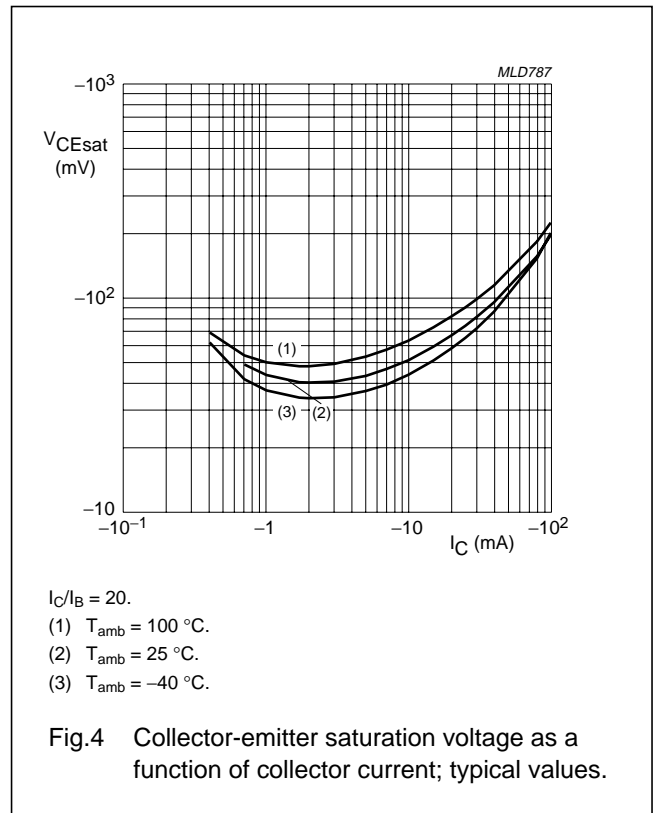
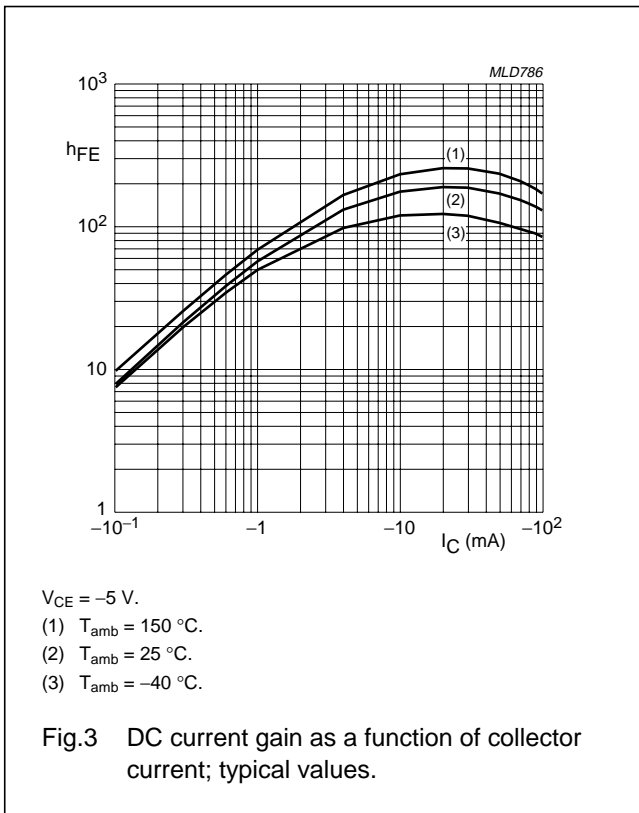
PEMB13

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per transistor unless otherwise specified						
I _{CBO}	collector-base cut-off current	V _{CB} = -50 V; I _C = 0	-	-	-100	nA
I _{CEO}	collector-emitter cut-off current	V _{CE} = -50 V; I _B = 0	-	-	-1	μ A
		V _{CE} = -30 V; I _B = 0; T _j = 150 °C	-	-	-50	μ A
I _{EBO}	emitter-base cut-off current	V _{EB} = -5 V; I _C = 0	-	-	-170	μ A
h _{FE}	DC current gain	V _{CE} = -5 V; I _C = -10 mA	100	-	-	
V _{CEsat}	collector-emitter saturation voltage	I _C = -5 mA; I _B = -0.25 mA	-	-	-100	mV
V _{i(off)}	input off voltage	V _{CE} = -5 V; I _C = -100 μ A	-	-0.6	-0.5	V
V _{i(on)}	input on voltage	V _{CE} = -0.3 V; I _C = -5 mA	-1.3	-0.9	-	V
R1	input resistor		3.3	4.7	6.1	k Ω
$\frac{R2}{R1}$	resistor ratio		8	10	12	
C _c	collector capacitance	I _E = I _e = 0; V _{CB} = -10 V; f = 1 MHz	-	-	3	pF

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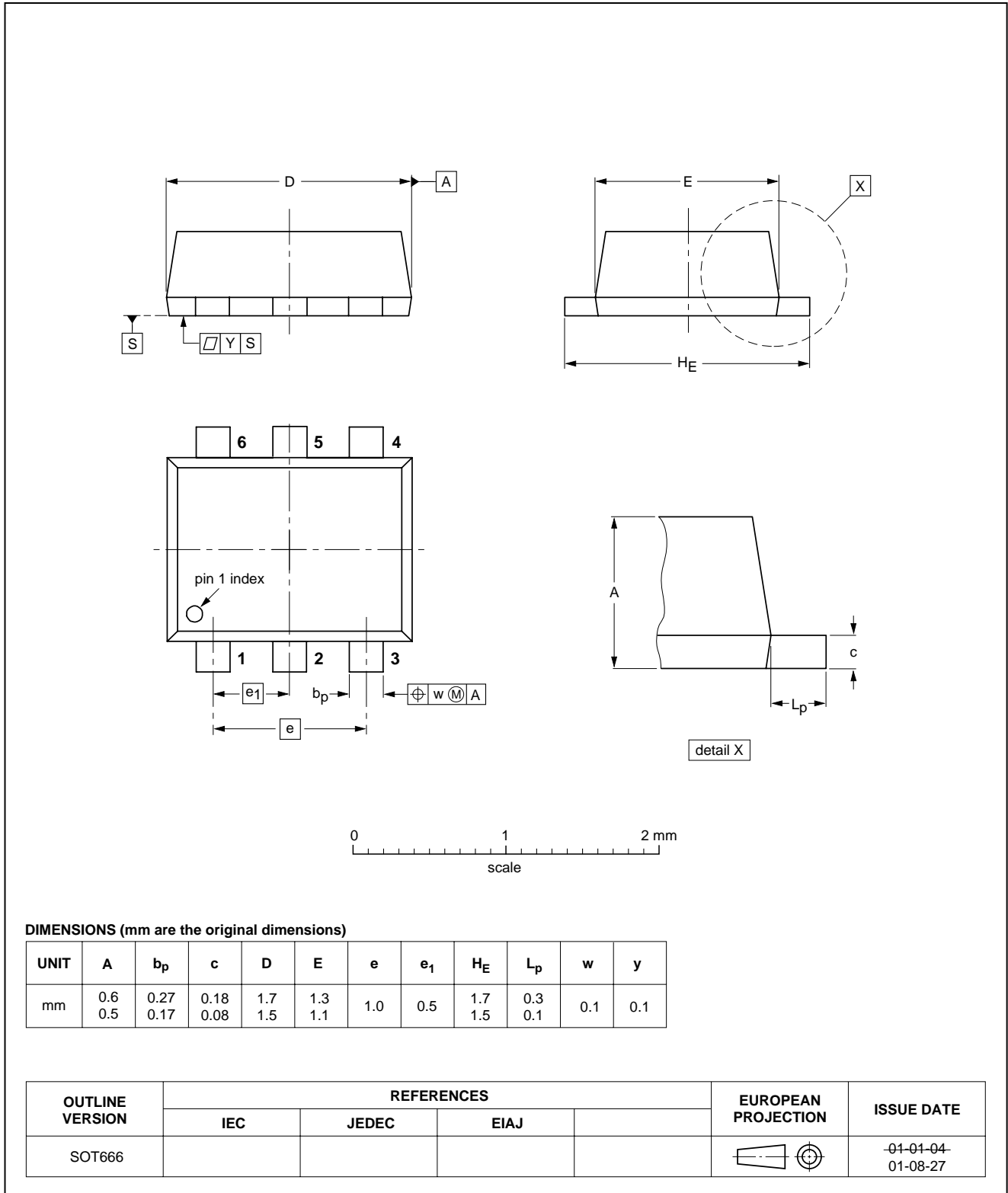
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



PNP resistor-equipped transistors;
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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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