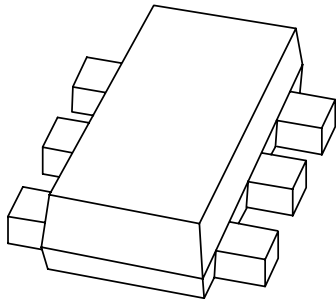


DATA SHEET



PEMZ7 NPN/PNP general purpose transistors

Product specification
Supersedes data of 2001 Sep 25

2001 Nov 07

NPN/PNP general purpose transistors

PEMZ7

FEATURES

- 300 mW total power dissipation
- Very small 1.6 × 1.2 mm ultra thin package
- Self alignment during soldering due to straight leads
- Low collector capacitance
- Low V_{CEsat}
- High current capabilities
- Improved thermal behaviour due to flat leads
- Reduced required PCB area
- Reduced pick and place costs.

APPLICATIONS

- Heavy duty battery powered equipment (automotive, telecom and audio-video) such as motor and lamp drivers
- V_{CEsat} critical applications such as latest low supply voltage IC applications
- All battery driven equipment, to save battery power.

DESCRIPTION

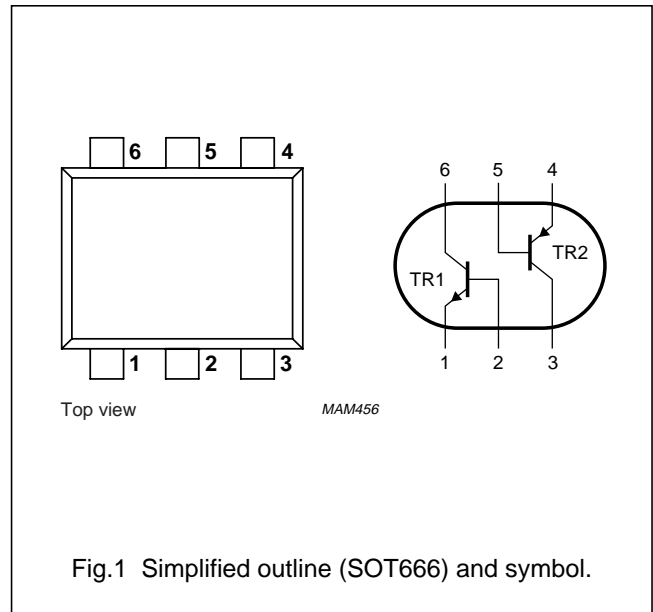
NPN/PNP low V_{CEsat} transistor pair in a SOT666 plastic package.

MARKING

TYPE NUMBER	MARKING CODE
PEMZ7	Z7

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; for the PNP transistor with negative polarity					
V _{CBO}	collector-base voltage	open emitter	–	15	V
V _{CEO}	collector-emitter voltage	open base	–	12	V
V _{EBO}	emitter-base voltage	open collector	–	6	V
I _C	collector current (DC)		–	500	mA
I _{CM}	peak collector current		–	1	A
I _{BM}	peak base 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 an 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.

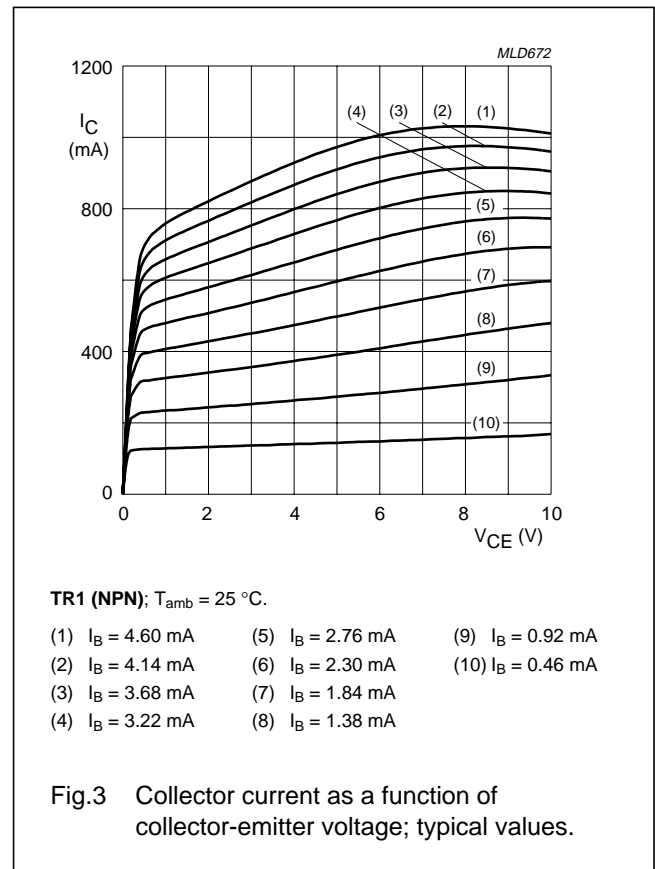
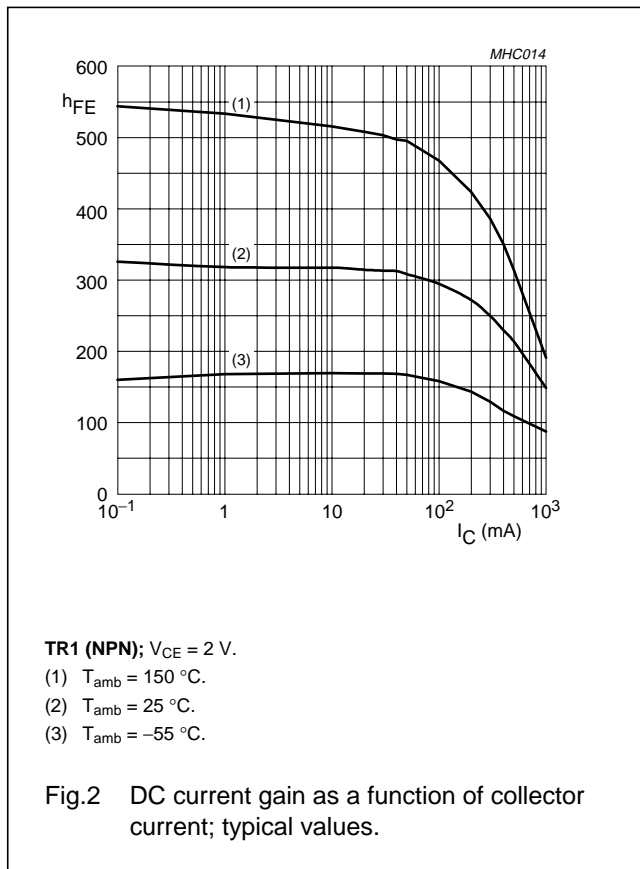
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CHARACTERISTICS

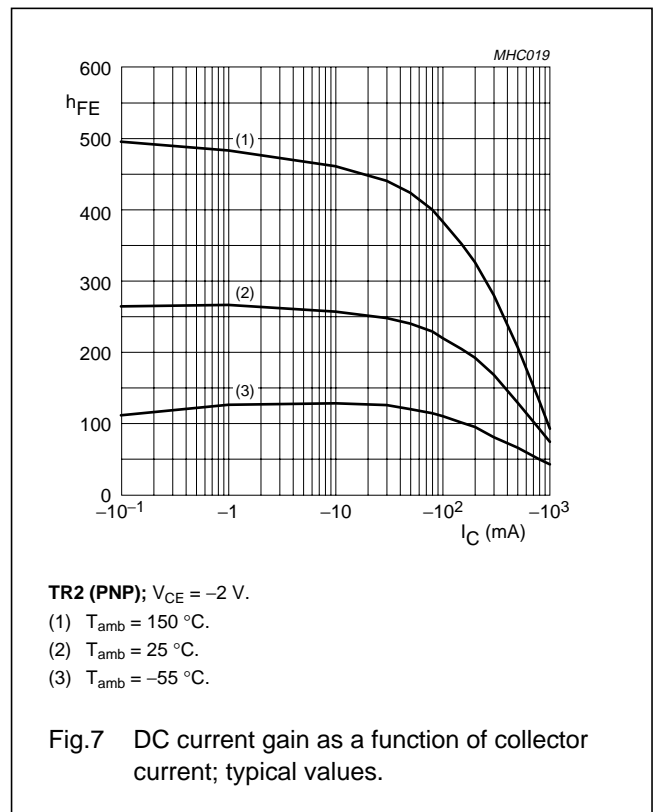
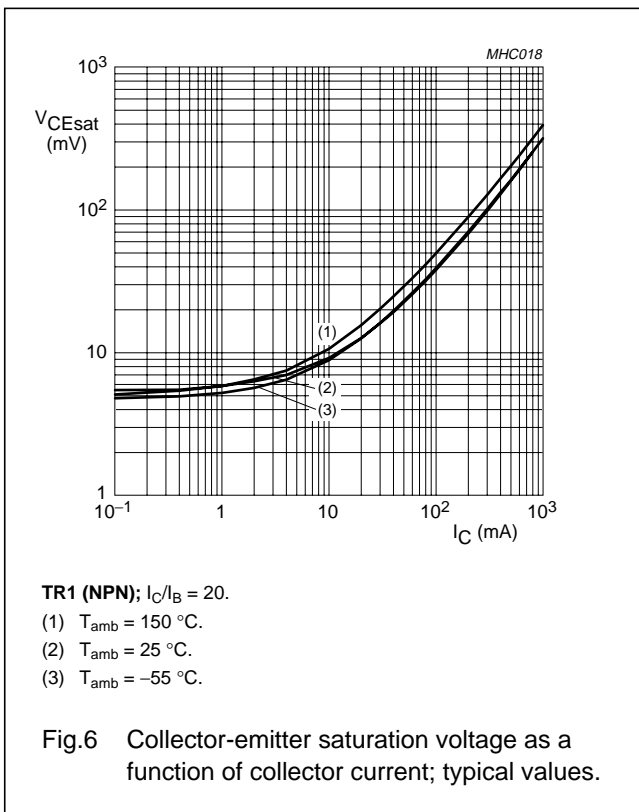
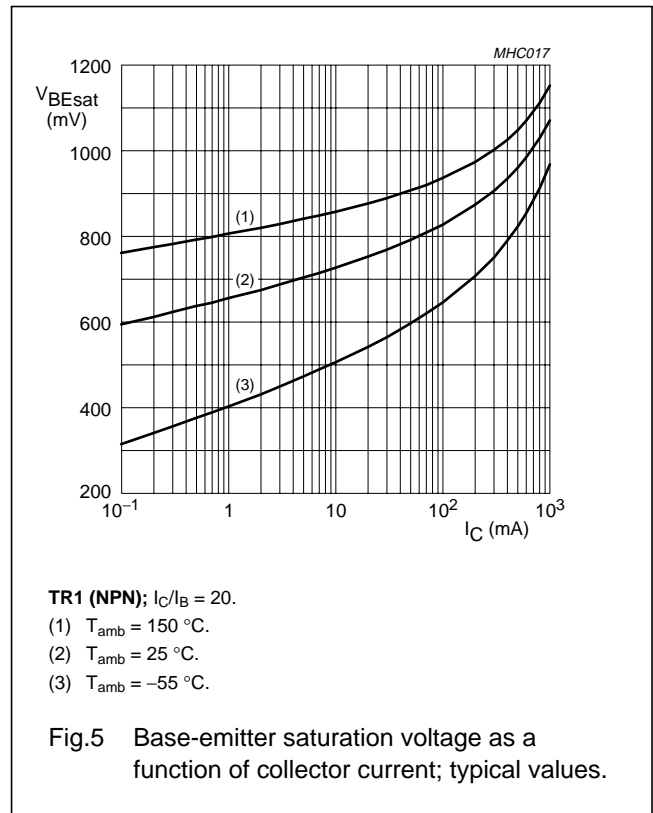
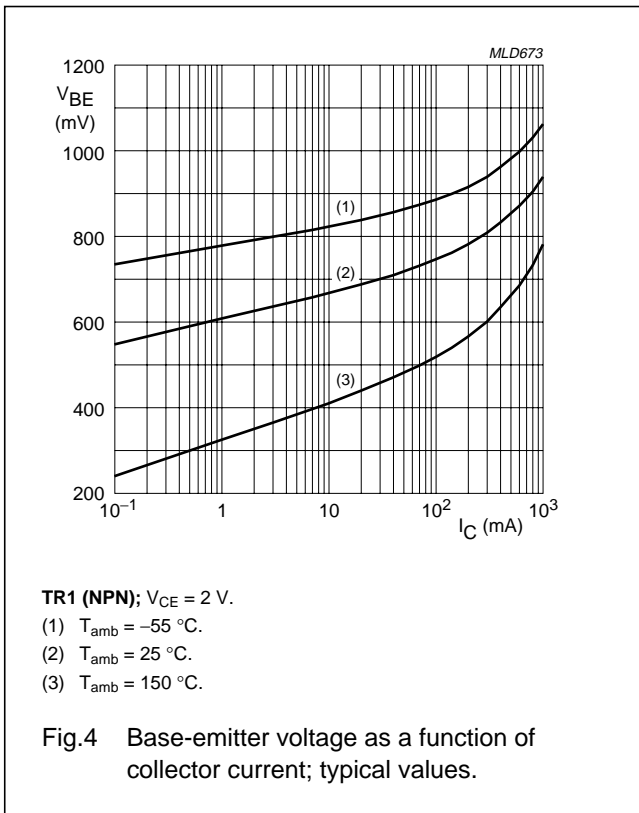
T_{amb} = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per transistor; for the PNP transistor with negative polarity						
I _{CBO}	collector-base cut-off current	V _{CB} = 15 V; I _E = 0	–	–	100	nA
		V _{CB} = 15 V; I _E = 0; T _j = 150 °C	–	–	50	µA
I _{EBO}	emitter-base cut-off current	V _{EB} = 5 V; I _C = 0	–	–	100	nA
h _{FE}	DC current gain	V _{CE} = 2 V; I _C = 10 mA	200	–	–	
V _{CEsat}	collector-emitter saturation voltage	I _C = 200 mA; I _B = 10 mA	–	–	220	mV
f _T	transition frequency TR1 (NPN) TR2 (PNP)	I _C = 100 mA; V _{CE} = 5 V; f = 100 MHz	250	420	–	MHz
			100	280	–	MHz
C _c	collector capacitance TR1 (NPN) TR2 (PNP)	V _{CB} = 10 V; I _E = I _e = 0; f = 1 MHz	–	4.4	6	pF
			–	–	10	pF



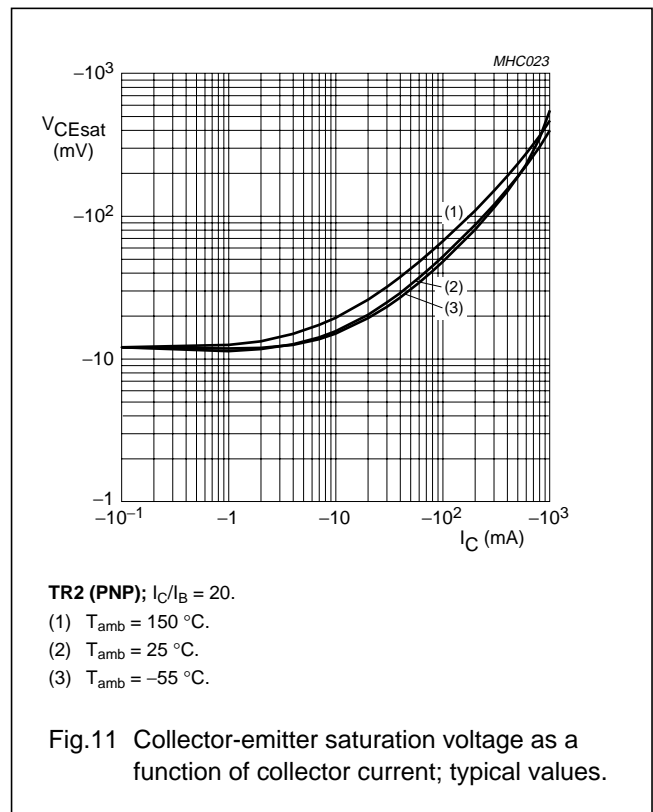
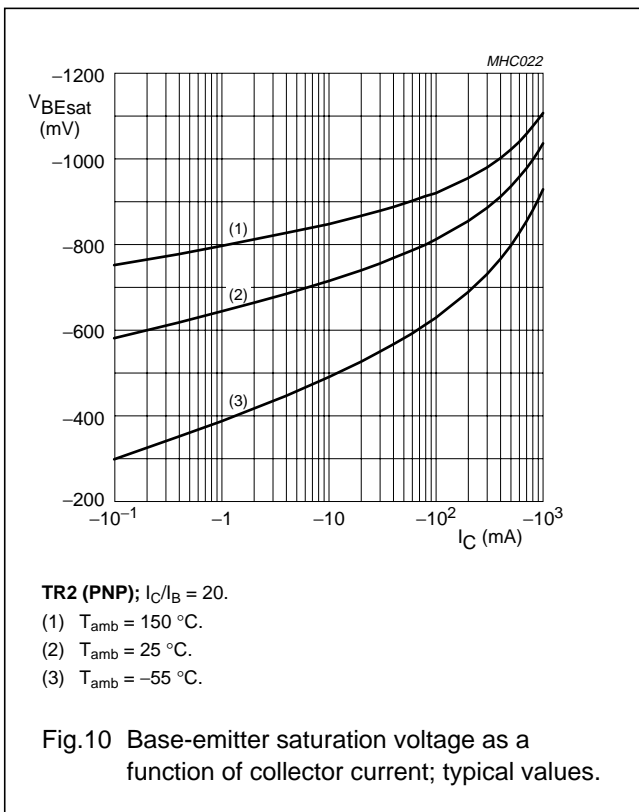
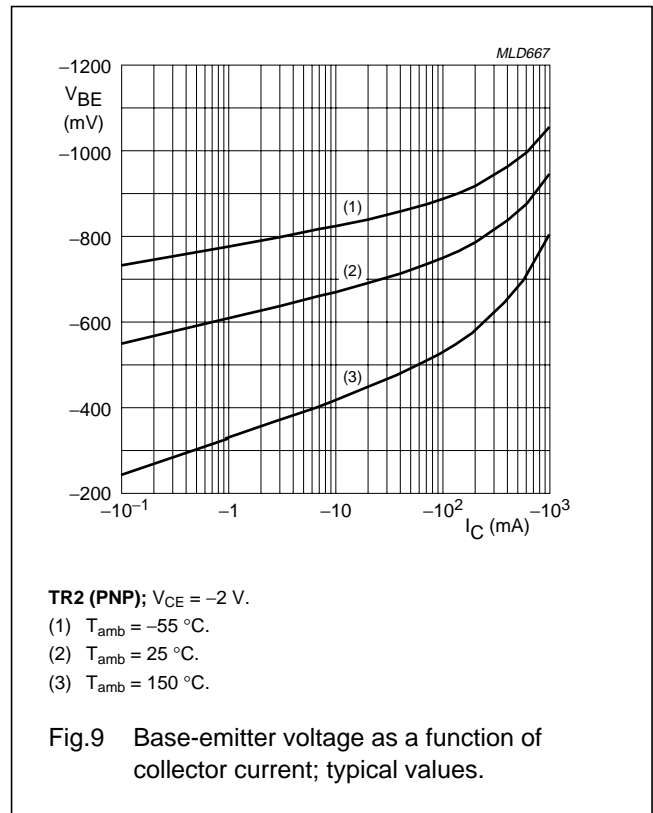
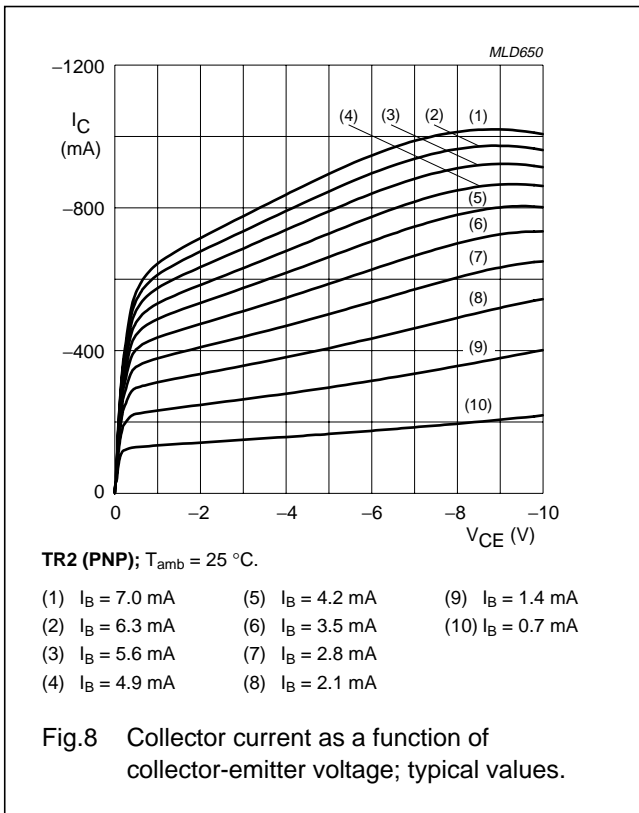
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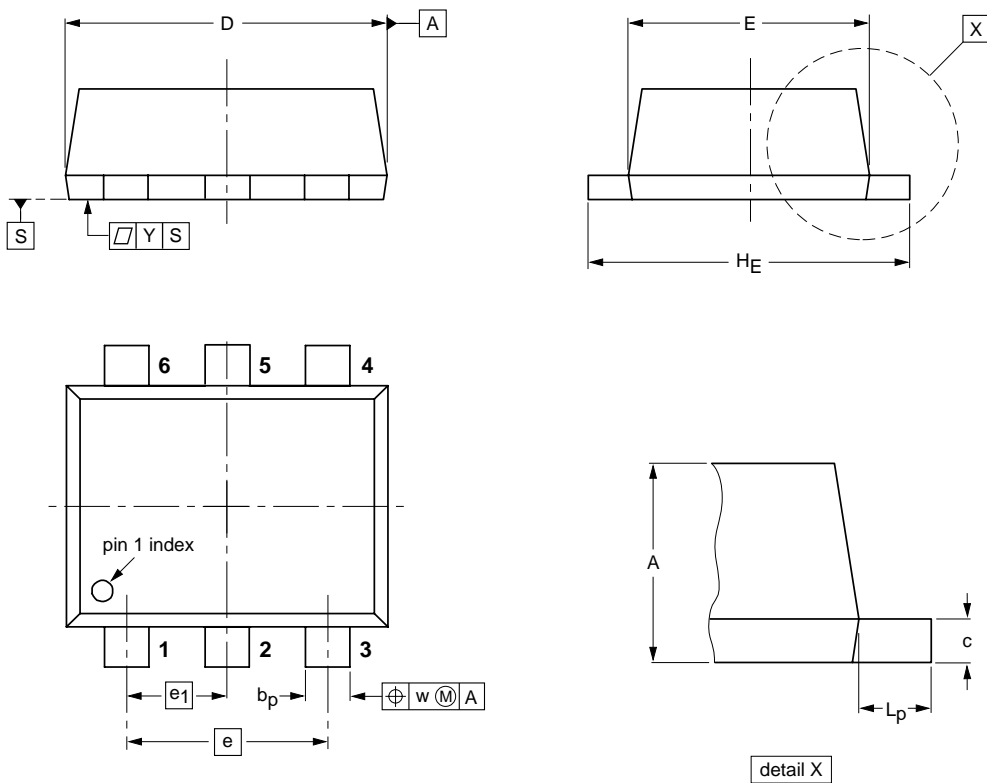
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PACKAGE OUTLINE

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 ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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NOTES

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NOTES

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NOTES

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