

DATA SHEET



PBSS3515VS

15 V low $V_{CE(sat)}$ PNP double
transistor

Product specification
Supersedes data of 2001 Nov 07

2004 Dec 23

15 V low $V_{CE(sat)}$ PNP double transistor

PBSS3515VS

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-emitter saturation voltage
- High current capability
- Improved thermal behaviour due to flat leads
- Replaces two SC75/SC89 packaged low V_{CEsat} transistors on same PCB area
- Reduces required PCB area
- Reduced pick and place costs.

APPLICATIONS

- General purpose switching and muting
- Low frequency driver circuits
- LCD backlighting
- Audio frequency general purpose amplifier applications
- Battery driven equipment (mobile phones, video cameras and hand-held devices).

DESCRIPTION

PNP low V_{CEsat} double transistor in a SOT666 plastic package.
 NPN complement: PBSS2515VS.

MARKING

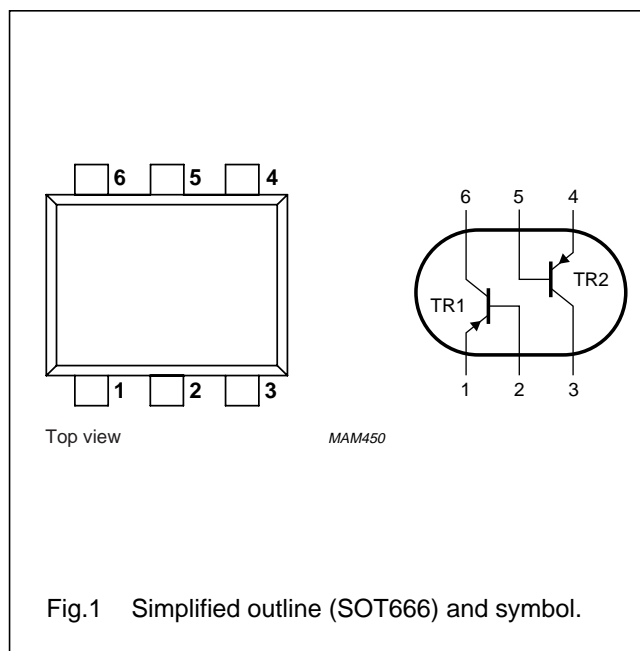
TYPE NUMBER	MARKING CODE
PBSS3515VS	35

QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
V_{CEO}	collector-emitter voltage	-15	V
I_{CM}	peak collector current	-1	A
R_{CEsat}	equivalent on-resistance	<500	m Ω

PINNING

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



ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
PBSS3515VS	-	plastic surface mounted package; 6 leads	SOT666

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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_{CBO}	collector-base voltage	open emitter	–	–15	V
V_{CEO}	collector-emitter voltage	open base	–	–15	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	$T_{amb} \leq 25\text{ °C}$; 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	$T_{amb} \leq 25\text{ °C}$; 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

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

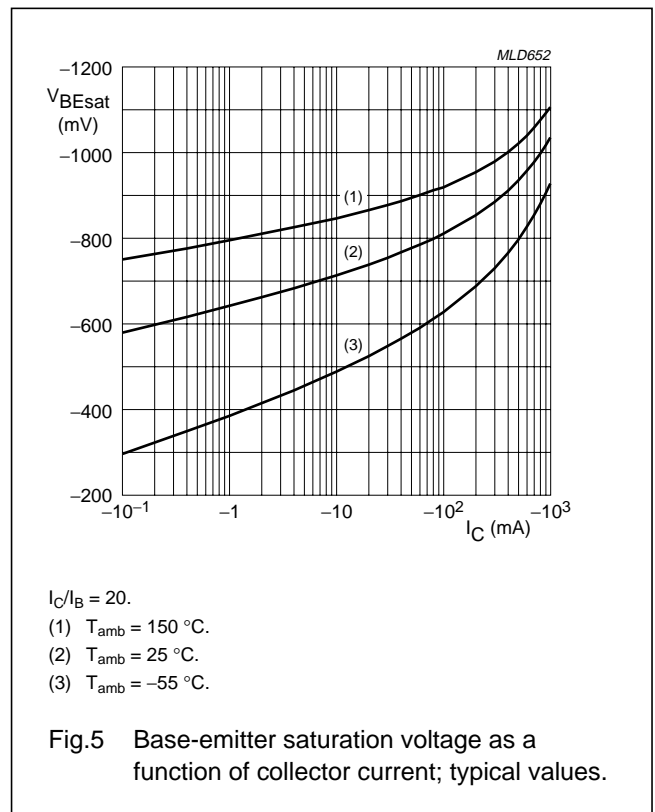
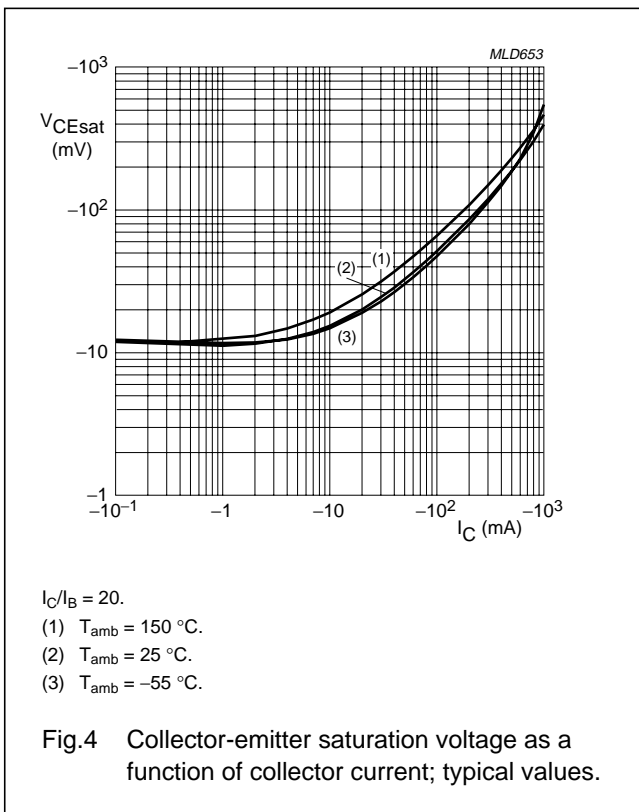
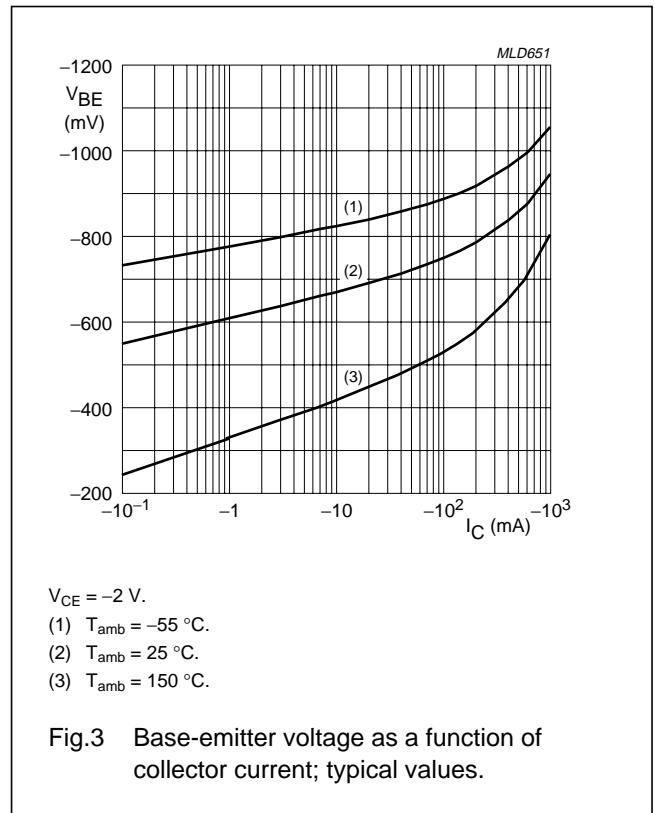
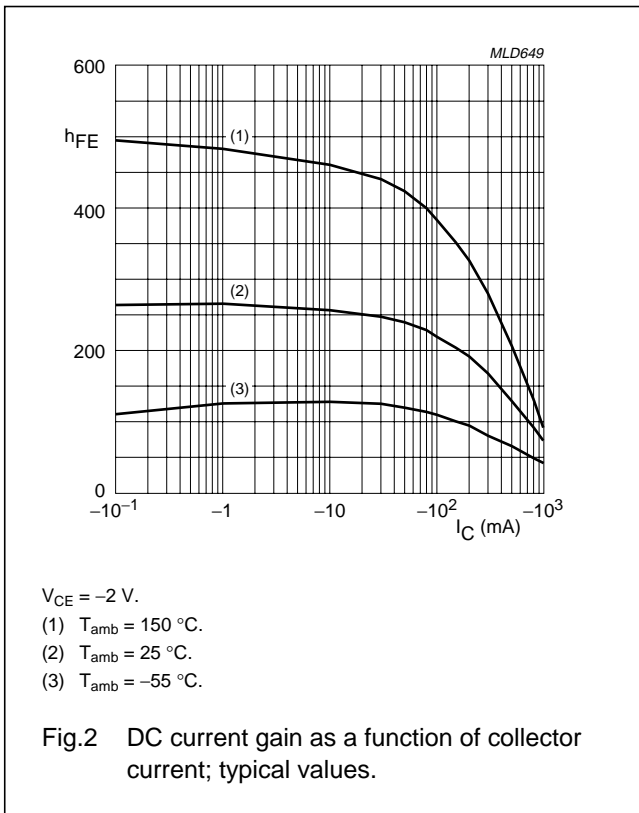
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Per transistor unless otherwise specified						
I_{CBO}	collector-base cut-off current	$V_{CB} = -15\text{ V}; I_E = 0\text{ A}$	–	–	–100	nA
		$V_{CB} = -15\text{ V}; I_E = 0\text{ A}; T_J = 150\text{ °C}$	–	–	–50	μA
I_{EBO}	emitter-base cut-off current	$V_{EB} = -5\text{ V}; I_C = 0\text{ A}$	–	–	–100	nA
h_{FE}	DC current gain	$V_{CE} = -2\text{ V}; I_C = -10\text{ mA}$	200	–	–	
		$V_{CE} = -2\text{ V}; I_C = -100\text{ mA};$ note 1	150	–	–	
		$V_{CE} = -2\text{ V}; I_C = -500\text{ mA};$ note 1	90	–	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$	–	–	–25	mV
		$I_C = -200\text{ mA}; I_B = -10\text{ mA}$	–	–	–150	mV
		$I_C = -500\text{ mA}; I_B = -50\text{ mA};$ note 1	–	–	–250	mV
R_{CEsat}	equivalent on-resistance	$I_C = -500\text{ mA}; I_B = -50\text{ mA};$ note 1	–	300	<500	$\text{m}\Omega$
V_{BEsat}	base-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -50\text{ mA};$ note 1	–	–	–1.1	V
V_{BE}	base-emitter turn-on voltage	$V_{CE} = -2\text{ V}; I_C = -100\text{ mA};$ note 1	–	–	–0.9	V
f_T	transition frequency	$I_C = -100\text{ mA}; V_{CE} = -5\text{ V};$ $f = 100\text{ MHz}$	100	280	–	MHz
C_c	collector capacitance	$V_{CB} = -10\text{ V}; I_E = I_e = 0\text{ A}; f = 1\text{ MHz}$	–	–	10	pF

Note

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

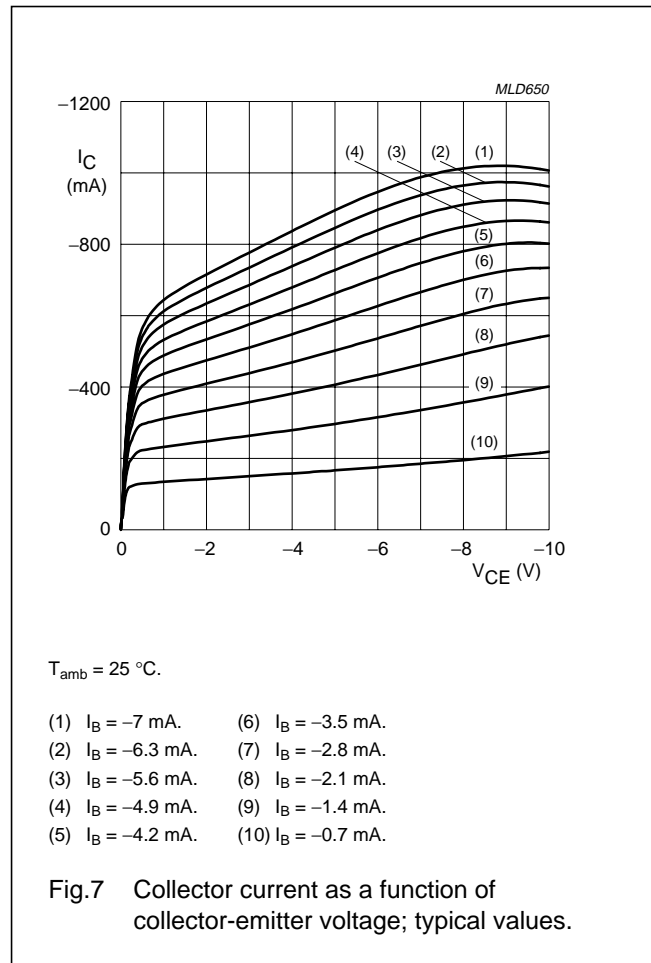
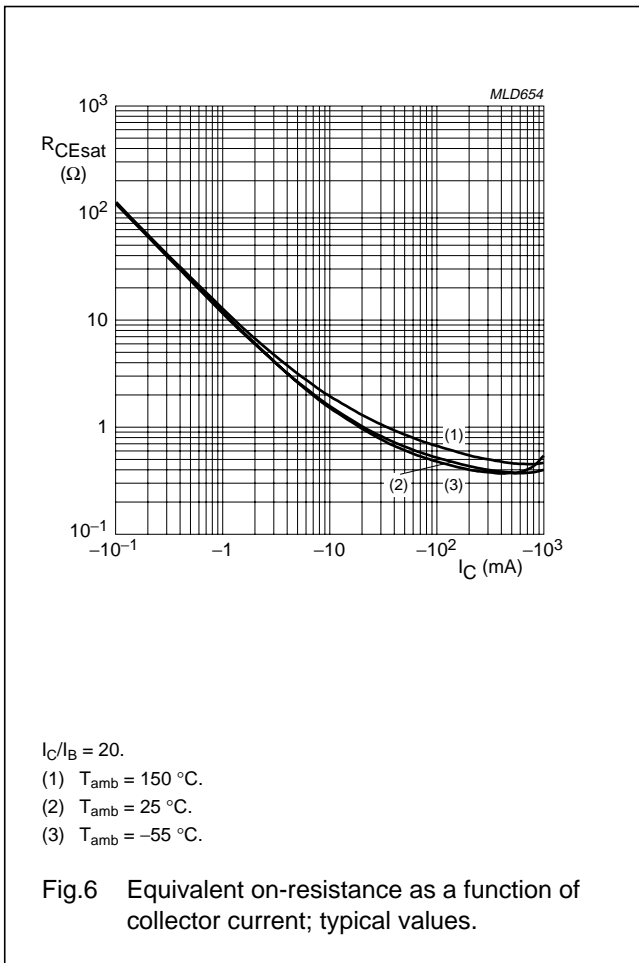
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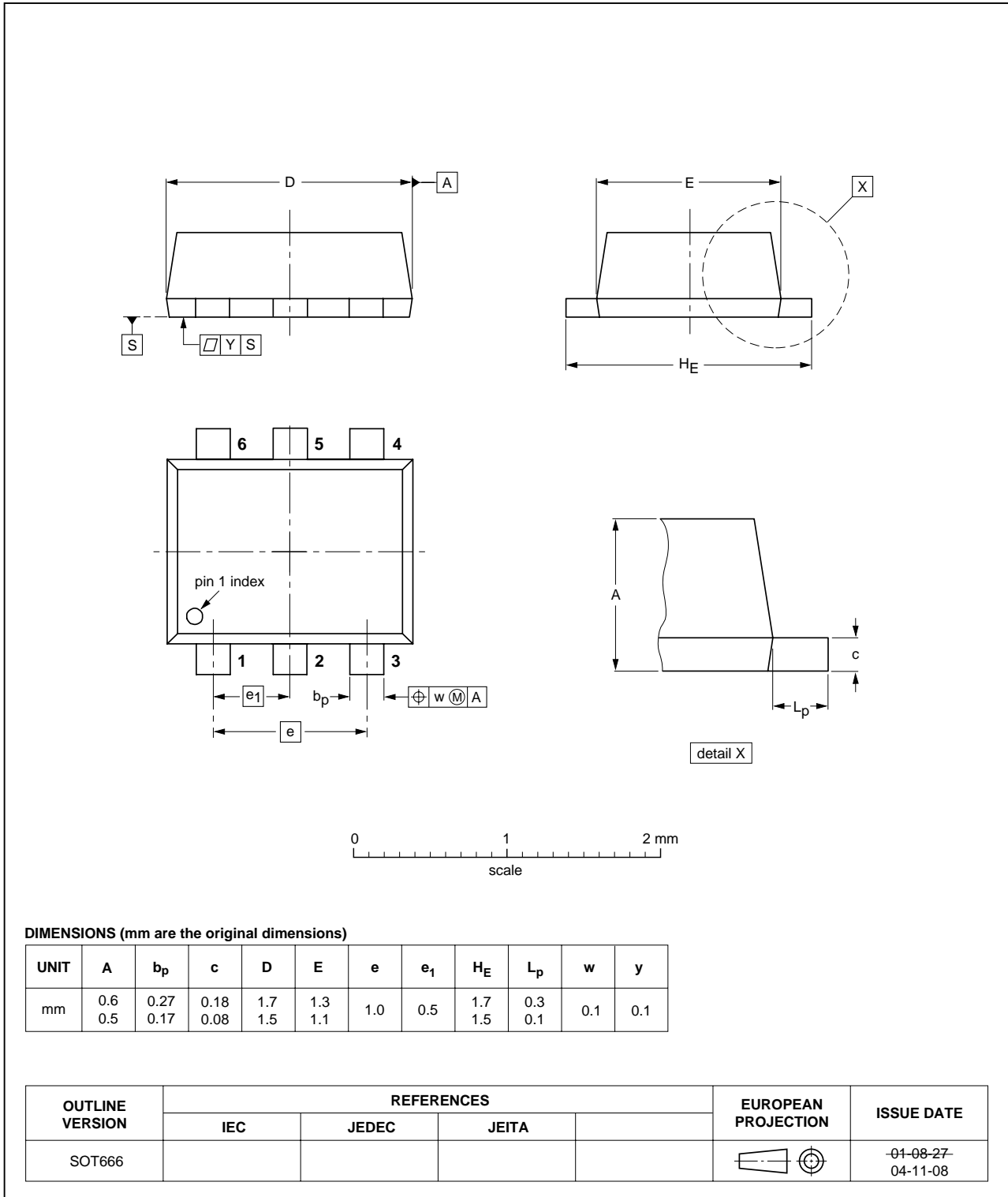
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



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DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	DEFINITION
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