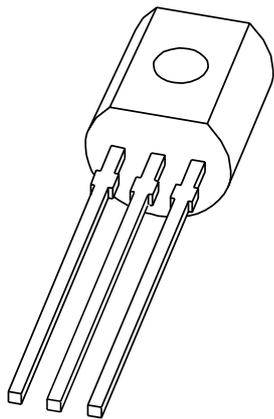


# DATA SHEET



**PSS8550**

**PNP medium power 25 V transistor**

Product specification  
Supersedes data of 2002 Nov 19

2004 Aug 10

## PNP medium power 25 V transistor

PSS8550

## FEATURES

- High total power dissipation
- High current capability.

## APPLICATIONS

- Medium power switching and muting
- Amplification
- Portable radio output amplifier (class-B, push-pull).

## DESCRIPTION

PNP transistor in a SOT54 (TO-92) plastic package.  
NPN complement: PSS8050.

## MARKING

TYPE NUMBER	MARKING CODE
PSS8550C	S8550C
PSS8550D	S8550D

## QUICK REFERENCE DATA

SYMBOL	PARAMETER	MAX.	UNIT
$V_{CEO}$	collector-emitter voltage	-25	V
$I_C$	collector current (DC)	-1.5	A

## PINNING

PIN	DESCRIPTION
1	collector
2	base
3	emitter

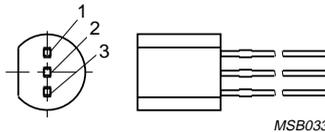


Fig.1 Simplified outline (SOT54).

## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage	open emitter	-	-40	V
$V_{CEO}$	collector-emitter voltage	open base	-	-25	V
$V_{EBO}$	emitter-base voltage	open collector	-	-6	V
$I_C$	collector current (DC)		-	-1.5	A
$I_{CM}$	peak collector current		-	-2	A
$I_B$	base current (DC)		-	-300	mA
$I_{BM}$	peak base current		-	-1	A
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$ ; note 1	-	850	mW
		$T_{amb} \leq 25\text{ }^\circ\text{C}$ ; note 2	-	900	mW
		$T_{amb} \leq 25\text{ }^\circ\text{C}$ ; note 3	-	1	W
$T_{stg}$	storage temperature		-65	+150	$^\circ\text{C}$
$T_j$	junction temperature		-	150	$^\circ\text{C}$
$T_{amb}$	operating ambient temperature		-65	+150	$^\circ\text{C}$

## Notes

1. Device mounted on a printed-circuit board; single sided copper; tinplated; standard footprint.
2. Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 1 cm<sup>2</sup>.
3. Device mounted on a printed-circuit board; single sided copper; tinplated; standard footprint. Operated under pulsed conditions: pulse width  $t_p \leq 1$  s; duty cycle  $\delta \leq 0.75\%$ .

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## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	in free air; note 1	147	K/W
		in free air; note 2	139	K/W
		in free air; note 3	125	K/W

## Notes

- Device mounted on a printed-circuit board; single sided copper; tinplated; standard footprint.
- Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 1 cm<sup>2</sup>.
- Device mounted on a printed-circuit board; single sided copper; tinplated; standard footprint.  
Operated under pulsed conditions: pulse width  $t_p \leq 1$  s; duty cycle  $\delta \leq 0.75\%$ .

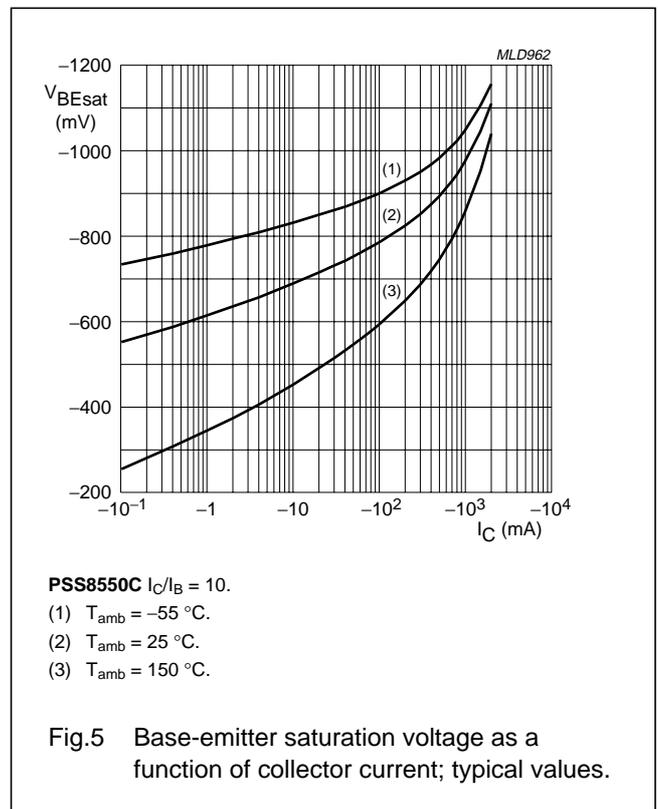
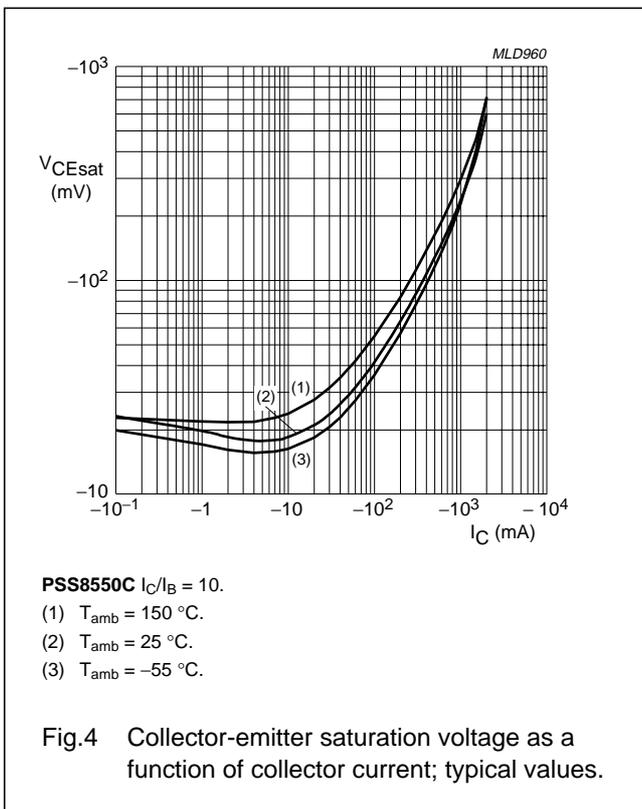
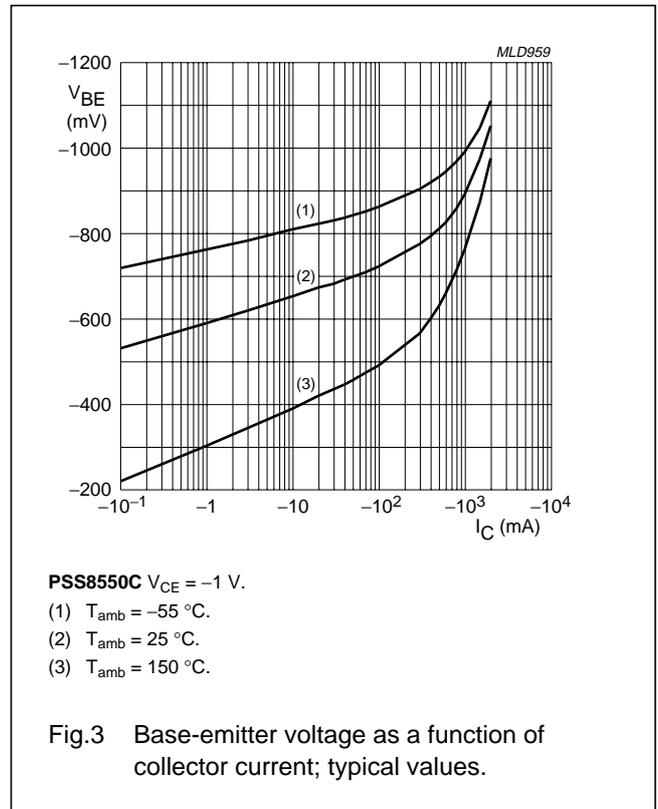
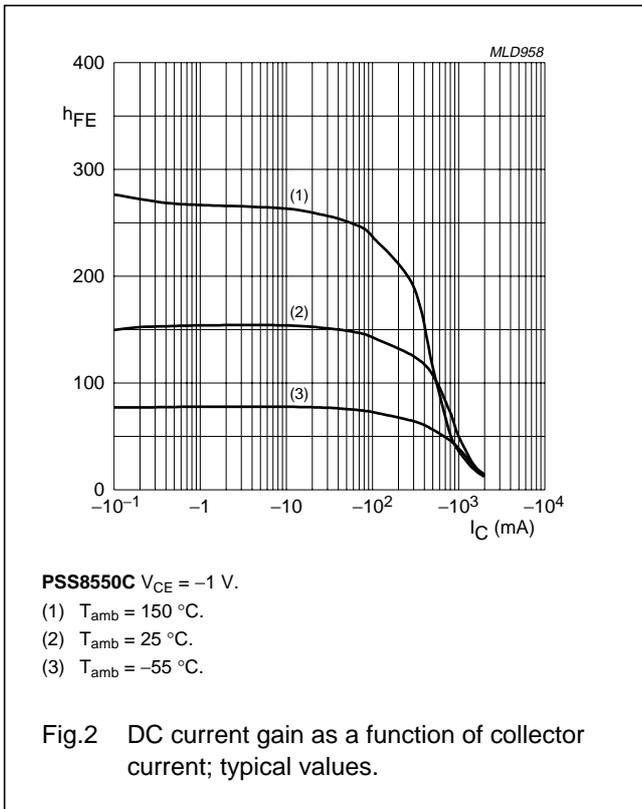
## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -35$ V; $I_E = 0$	–	–	–100	nA
		$V_{CB} = -35$ V; $I_E = 0$ ; $T_{amb} = 150$ °C	–	–	–50	µA
$I_{CEO}$	collector-emitter cut-off current	$V_{CE} = -25$ V; $I_B = 0$	–	–	–100	nA
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -6$ V; $I_C = 0$	–	–	–100	nA
$h_{FE}$	DC current gain	$I_C = -5$ mA; $V_{CE} = -1$ V	45	–	–	
		$I_C = -800$ mA; $V_{CE} = -1$ V	40	–	–	
	DC current gain PSS8550C PSS8550D	$I_C = -100$ mA; $V_{CE} = -1$ V	120 160	– –	200 300	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -800$ mA; $I_B = -80$ mA	–	–190	–500	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -800$ mA; $I_B = -80$ mA	–	–	–1.2	V
$V_{BEon}$	base-emitter turn-on voltage	$I_C = -10$ mA; $V_{CE} = -1$ V	–	–	–1	V
$f_T$	transition frequency	$I_C = -50$ mA; $V_{CE} = -10$ V; $f = 100$ MHz	100	–	–	MHz
$C_c$	collector capacitance	$V_{CB} = 10$ V; $I_E = I_e = 0$ ; $f = 1$ MHz	–	–	12	pF

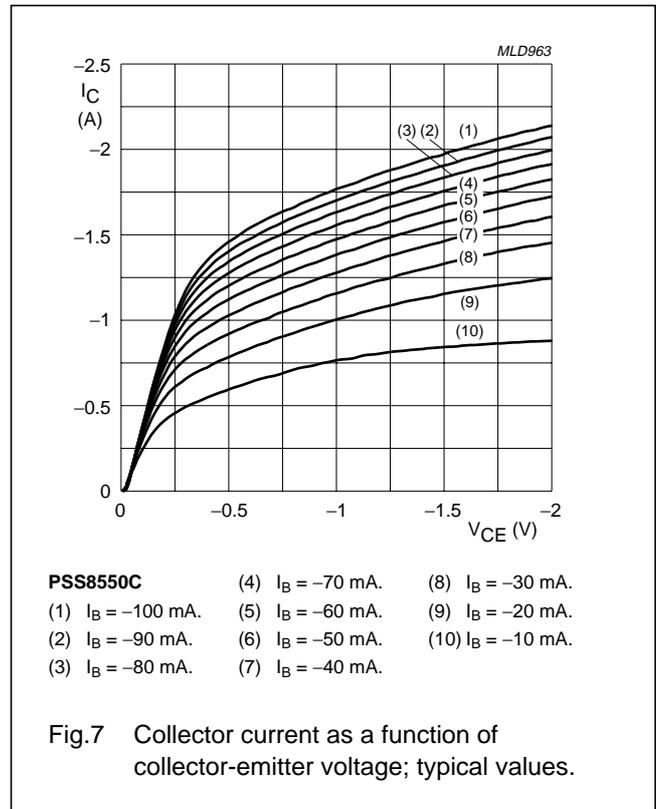
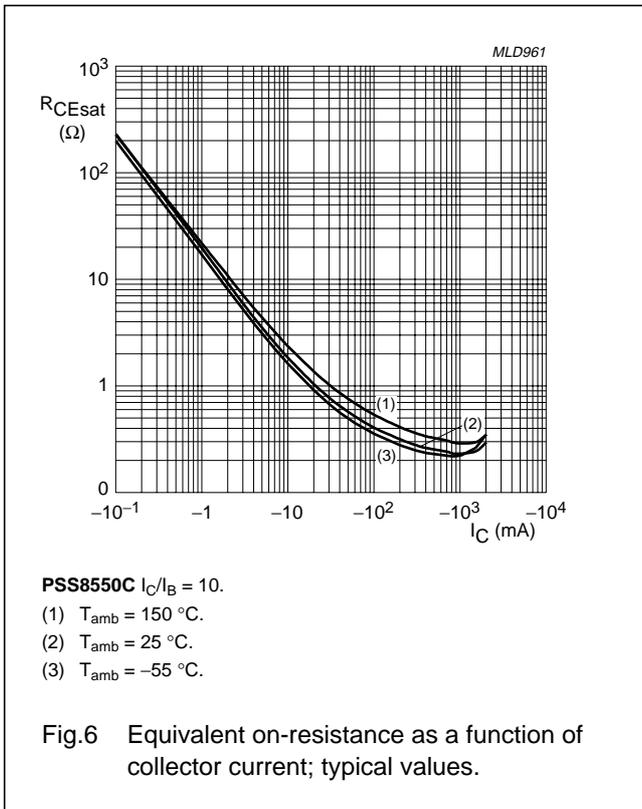
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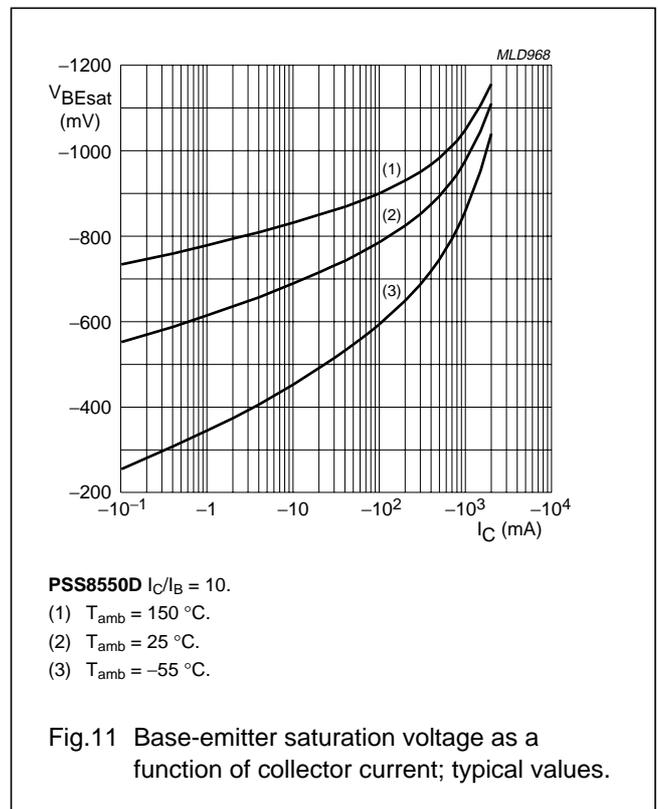
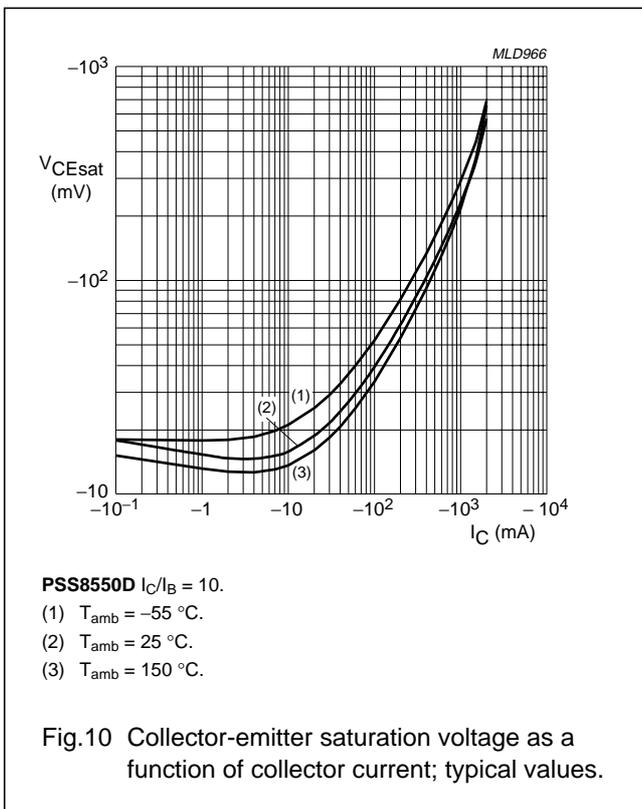
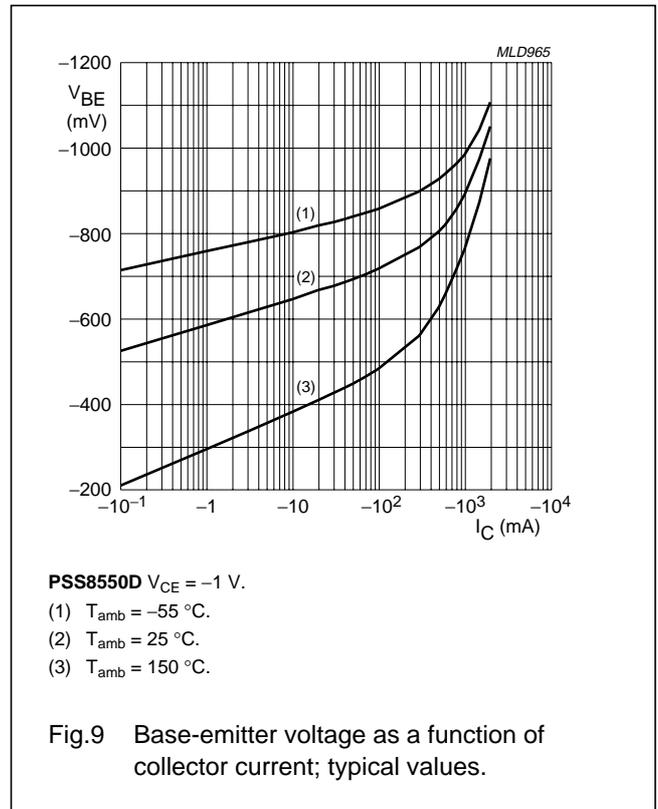
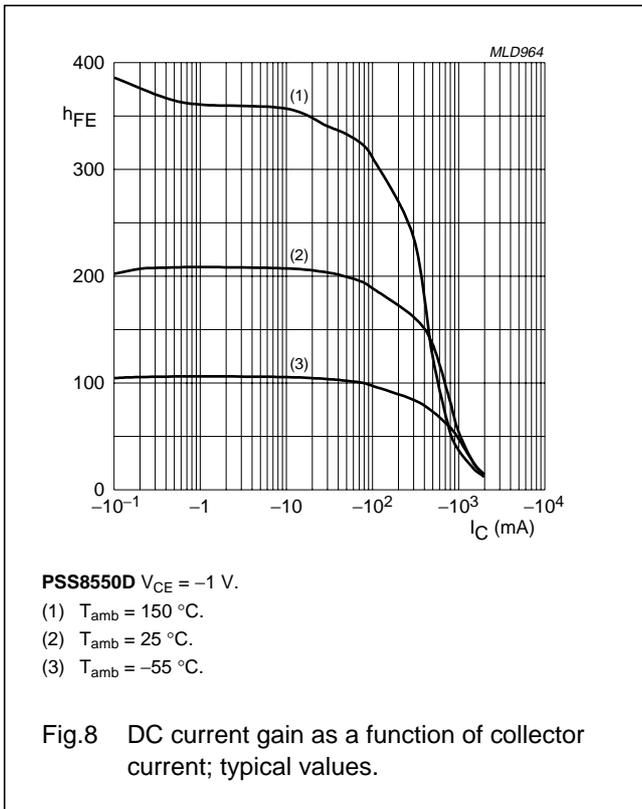
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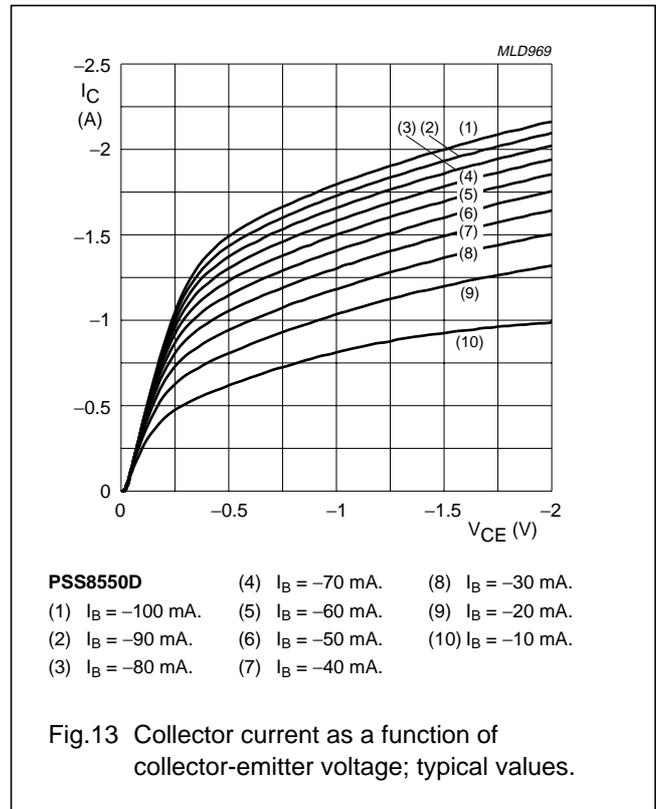
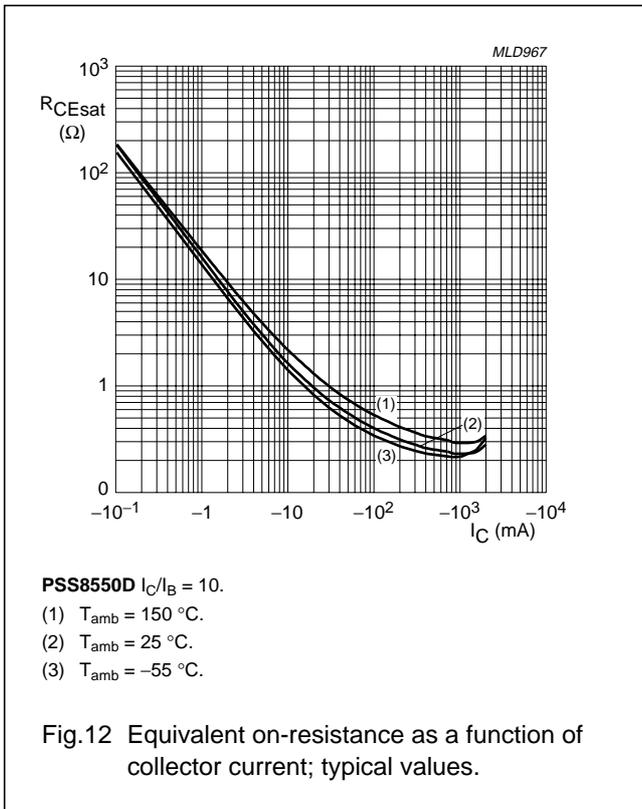
PNP medium power 25 V transistor

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PNP medium power 25 V transistor

PSS8550



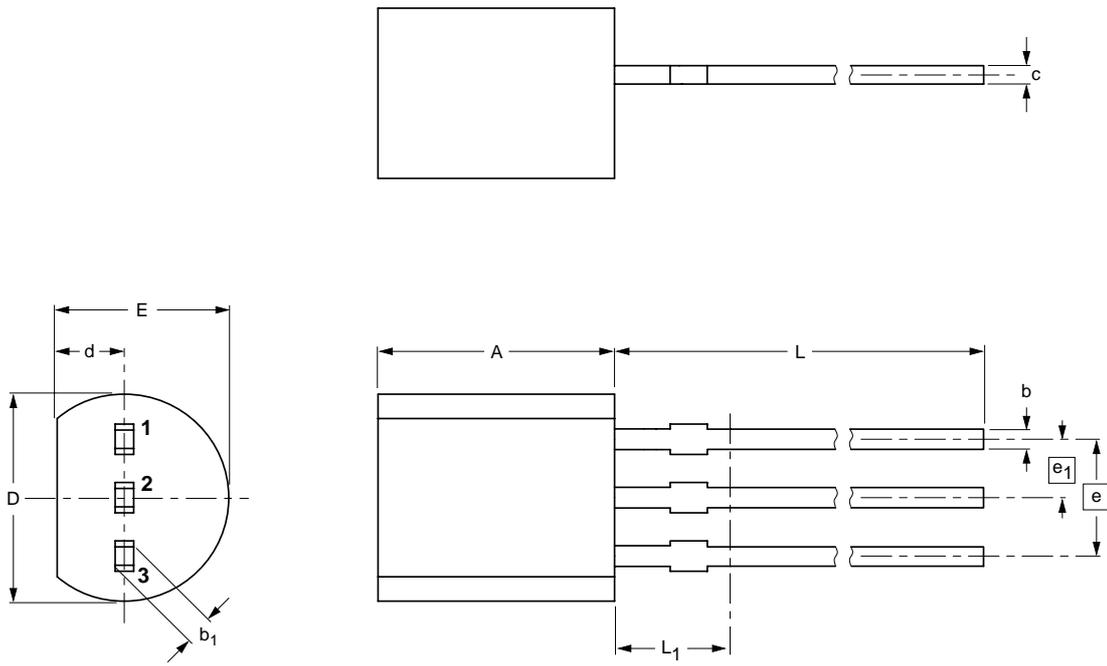
PNP medium power 25 V transistor

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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b <sub>1</sub>	c	D	d	E	e	e <sub>1</sub>	L	L <sub>1</sub> <sup>(1)</sup> max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

Note

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
SOT54		TO-92	SC-43A		97-02-28 04-06-28

## PNP medium power 25 V transistor

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## DATA SHEET STATUS

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Printed in The Netherlands

R75/02/pp10

Date of release: 2004 Aug 10

Document order number: 9397 750 13683

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