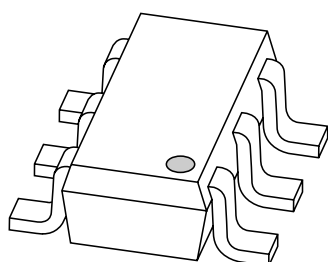


DATA SHEET



PBSS5350D PNP transistor

Product specification

2000 Mar 08

PNP transistor

PBSS5350D

FEATURES

- High current capabilities
- Low V_{CEsat} .

APPLICATIONS

- Heavy duty battery powered equipment (Automotive, Telecom and Audio/Video) such as motor and lamp drivers
- V_{CEsat} critical applications such as the latest low supply voltage IC applications
- All battery driven equipment to save battery power.

DESCRIPTION

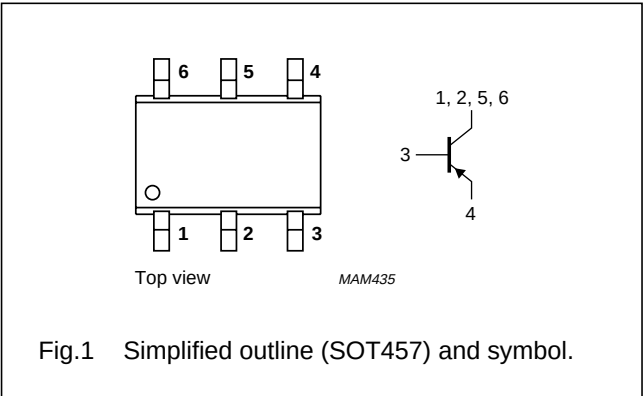
PNP low V_{CEsat} transistor in a SC-74 plastic package.
NPN complement: PBSS4350D.

MARKING CODE

TYPE NUMBER	MARKING CODE
PBSS5350D	53

PINNING

PIN	DESCRIPTION
1	collector
2	collector
3	base
4	emitter
5	collector
6	collector



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	–	–60	V
V_{CEO}	collector-emitter voltage	open base	–	–50	V
V_{EBO}	emitter-base voltage	open collector	–	–6	V
I_C	collector current (DC)		–	–3	A
I_{CM}	peak collector current		–	–5	A
I_{BM}	peak base current		–	–1	A
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$ note 1 note 2	–	600 750	mW mW
T_{stg}	storage temperature		–65	+150	$^{\circ}\text{C}$
T_j	junction temperature		–	150	$^{\circ}\text{C}$
T_{amb}	ambient temperature		–65	+150	$^{\circ}\text{C}$

Notes

1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm².
2. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 6 cm².

PNP transistor

PBSS5350D

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	in free air; note 1	208	K/W
		note 2	160	K/W

Notes

1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm².
2. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 6 cm².

CHARACTERISTICS

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

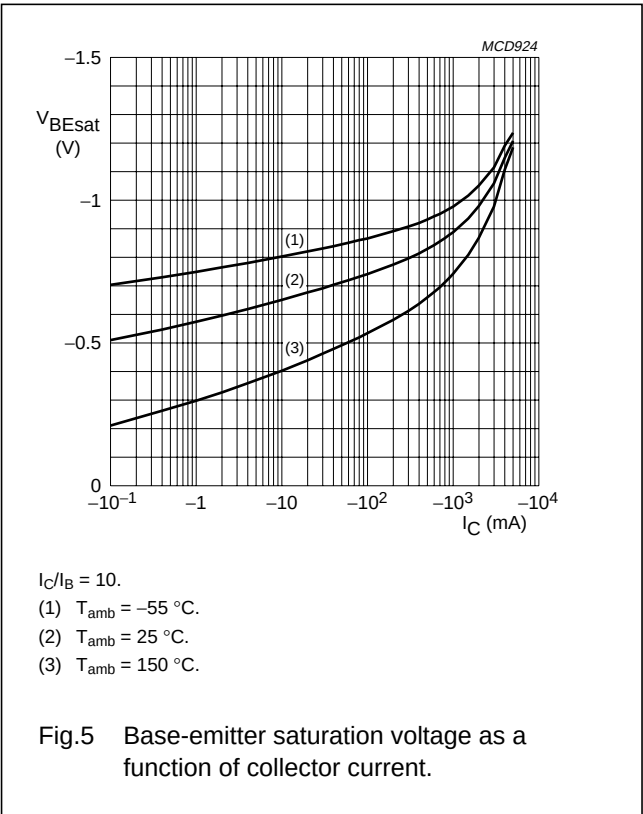
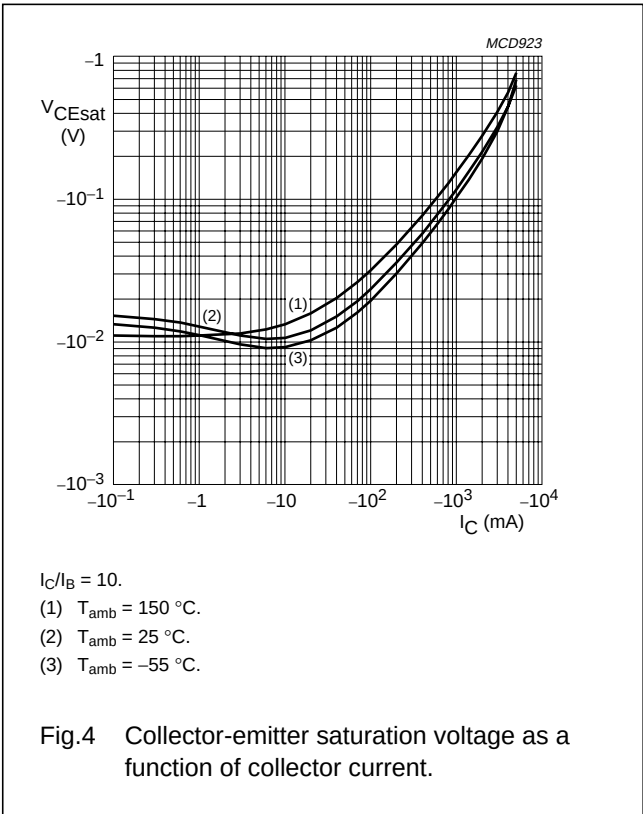
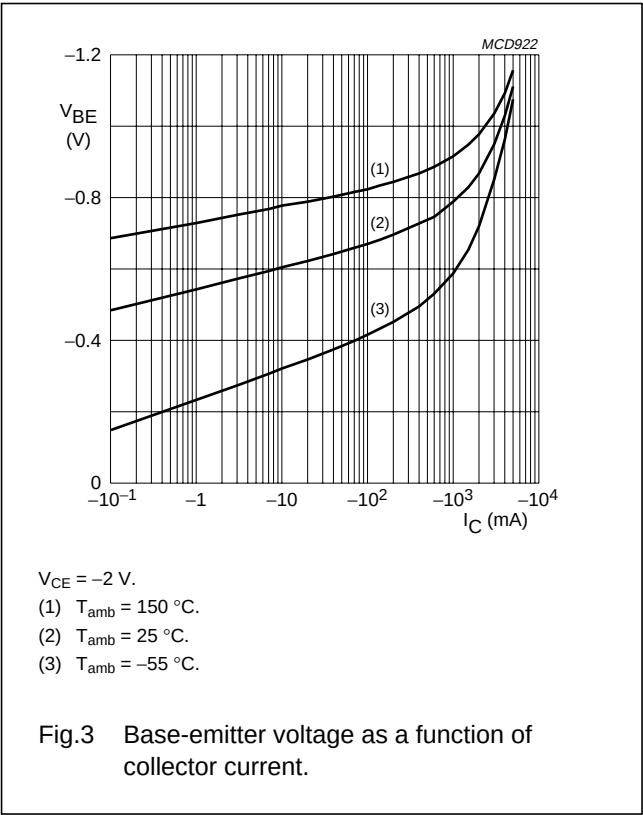
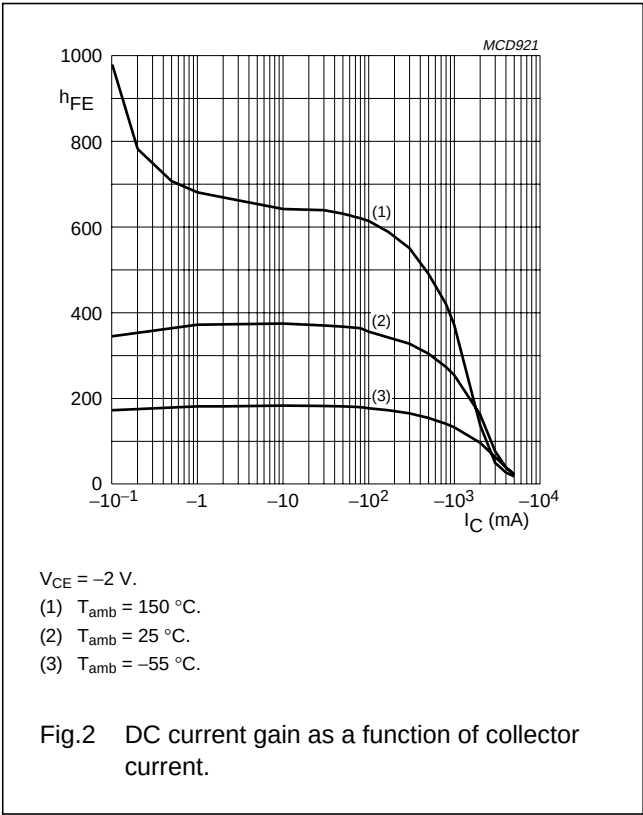
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = -50\text{ V}$	–	–100	nA
		$I_E = 0; V_{CB} = -50\text{ V}; T_j = 150\text{ °C}$	–	–50	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–100	nA
h_{FE}	DC current gain	$V_{CE} = -2\text{ V};$ $I_C = -500\text{ mA}$	200	–	
		$I_C = -1\text{ A};$ note 1	200	–	
		$I_C = -2\text{ A};$ note 1	100	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -50\text{ mA}$	–	–100	mV
		$I_C = -1\text{ A}; I_B = -50\text{ mA}$	–	–180	mV
		$I_C = -2\text{ A}; I_B = -200\text{ mA};$ note 1	–	–300	mV
V_{BEsat}	base-emitter saturation voltage	$I_C = -2\text{ A}; I_B = -200\text{ mA};$ note 1	–	–1.2	V
V_{BEon}	base-emitter turn-on voltage	$I_C = -1\text{ A}; V_{CE} = -2\text{ V};$ note 1	–	–1.1	V
C_c	collector capacitance	$I_E = I_e = 0; V_{CB} = -10\text{ V};$ $f = 1\text{ MHz}$	–	40	pF
f_T	transition frequency	$I_C = -100\text{ mA}; V_{CE} = -5\text{ V};$ $f = 100\text{ MHz}$	100	–	MHz

Note

1. Pulse test $t_p \leq 300\text{ μs}$, $\delta \leq 0.02$.

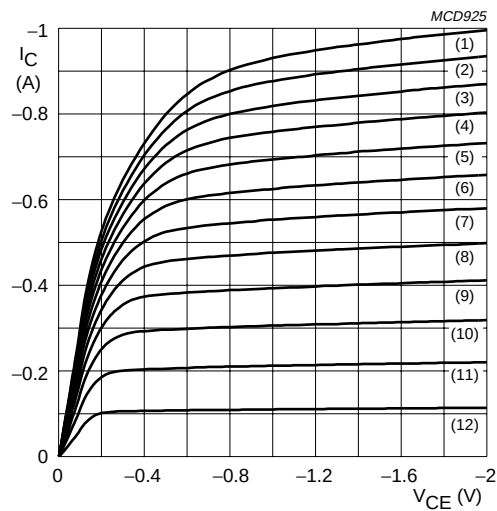
PNP transistor

PBSS5350D



PNP transistor

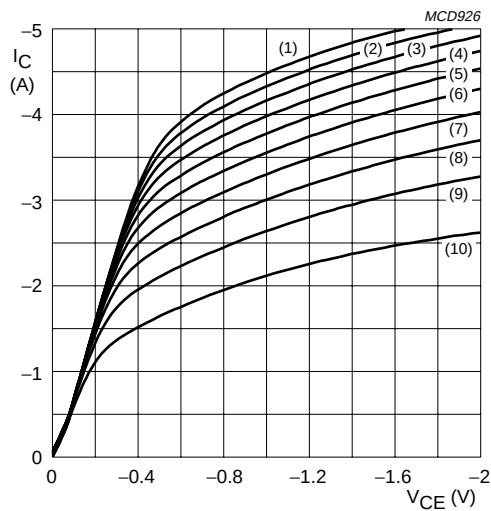
PBSS5350D



$T_{amb} = 25\text{ }^{\circ}\text{C}.$

- | | |
|------------------------------|---------------------------------------|
| (1) $I_B = -3.96\text{ mA}.$ | (7) $I_B = -1.98\text{ mA}.$ |
| (2) $I_B = -3.63\text{ mA}.$ | (8) $I_B = -1.65\text{ mA}.$ |
| (3) $I_B = -3.3\text{ mA}.$ | (9) $I_B = -1.32\text{ mA}.$ |
| (4) $I_B = -2.97\text{ mA}.$ | (10) $I_B = -990\text{ }\mu\text{A}.$ |
| (5) $I_B = -2.64\text{ mA}.$ | (11) $I_B = -660\text{ }\mu\text{A}.$ |
| (6) $I_B = -2.31\text{ mA}.$ | (12) $I_B = -330\text{ }\mu\text{A}.$ |

Fig.6 Collector current as a function of base current and collector-emitter voltage.



$T_{amb} = 25\text{ }^{\circ}\text{C}.$

- | | |
|-----------------------------|-----------------------------|
| (1) $I_B = -250\text{ mA}.$ | (6) $I_B = -125\text{ mA}.$ |
| (2) $I_B = -225\text{ mA}.$ | (7) $I_B = -100\text{ mA}.$ |
| (3) $I_B = -200\text{ mA}.$ | (8) $I_B = -75\text{ mA}.$ |
| (4) $I_B = -175\text{ mA}.$ | (9) $I_B = -50\text{ mA}.$ |
| (5) $I_B = -150\text{ mA}.$ | (10) $I_B = -25\text{ mA}.$ |

Fig.7 Collector current as a function of base current and collector-emitter voltage.

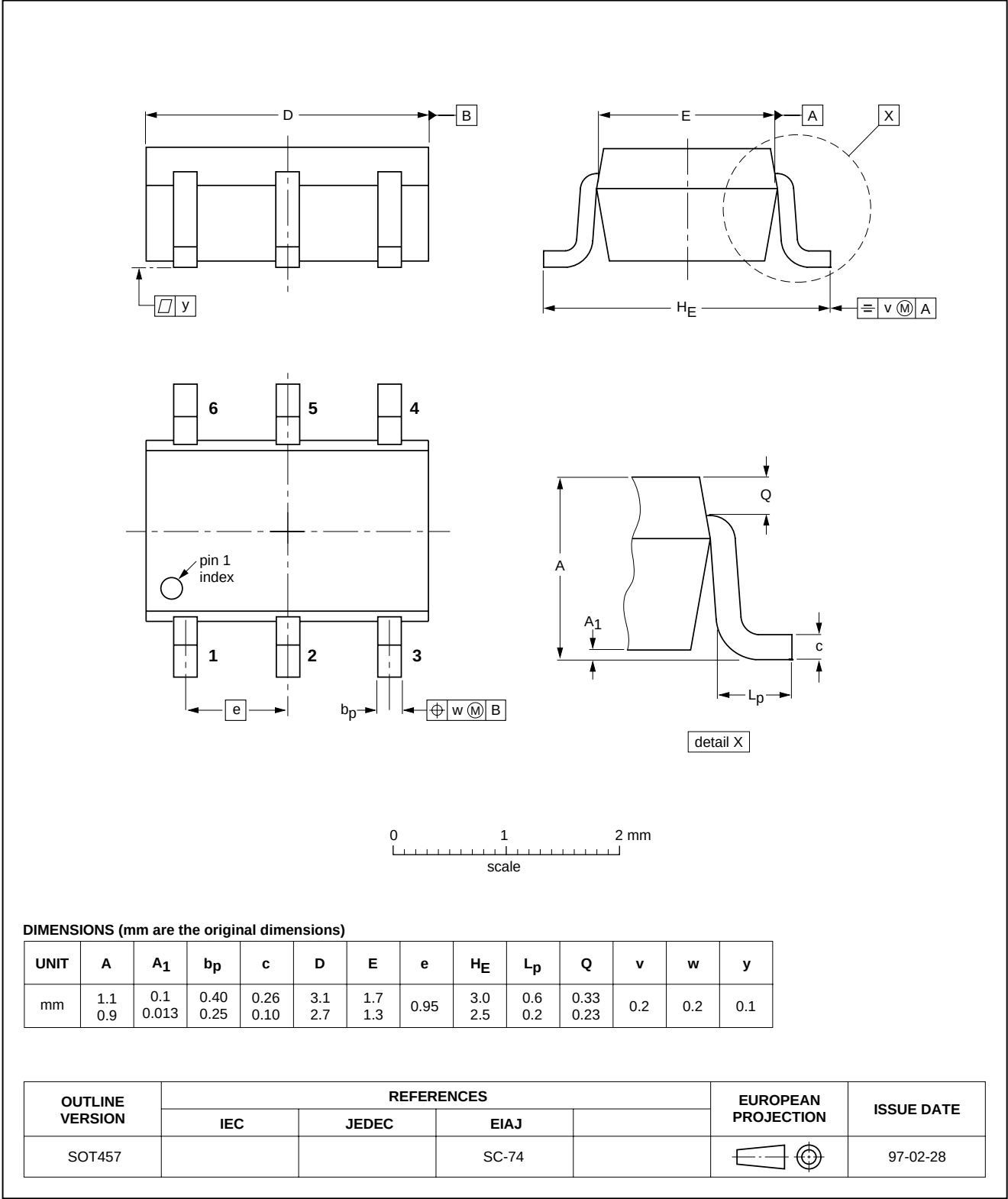
PNP transistor

PBSS5350D

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



PNP transistor

PBSS5350D

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

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Printed in The Netherlands

603506/01/pp8

Date of release: 2000 Mar 08

Document order number: 9397 750 06733

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