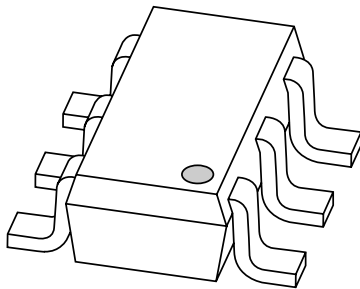


DATA SHEET



BF485PN NPN/PNP high voltage transistors

Product specification

2000 Aug 02

NPN/PNP high voltage transistors

BF485PN

FEATURES

- High voltage (max. 350 V)
- Low current (max. 200 mA)
- High power dissipation (600 mW)
- Two independently working transistors.

APPLICATIONS

- Complementary high-voltage configurations
- Hook switch in telephone applications.

DESCRIPTION

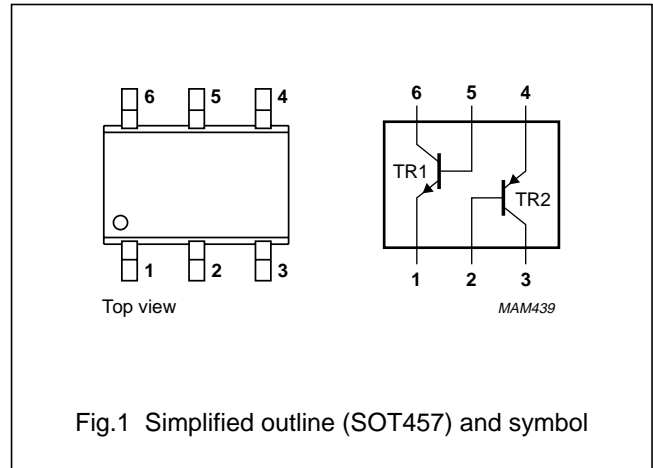
NPN/PNP transistors in a SOT457 (SC-74) plastic package.

MARKING CODE

TYPE NUMBER	CODE
BF485PN	HS

PINNING

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



LIMITING VALUES

In accordance with 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	–	350	V
V_{CEO}	collector-emitter voltage	open base	–	350	V
V_{EBO}	emitter-base voltage	open collector	–	6	V
I_O	output current (DC)		–	100	mA
I_{CM}	peak collector current		–	200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$; note 1	–	600	mW
T_{stg}	storage temperature		–65	+150	$^\circ\text{C}$
T_j	junction temperature		–	150	$^\circ\text{C}$
T_{amb}	operating ambient temperature range		–65	+150	$^\circ\text{C}$
Per device					
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$; note 1	–	300	mW

Note

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

NPN/PNP high voltage transistors

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THERMAL CHARACTERISTICS

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

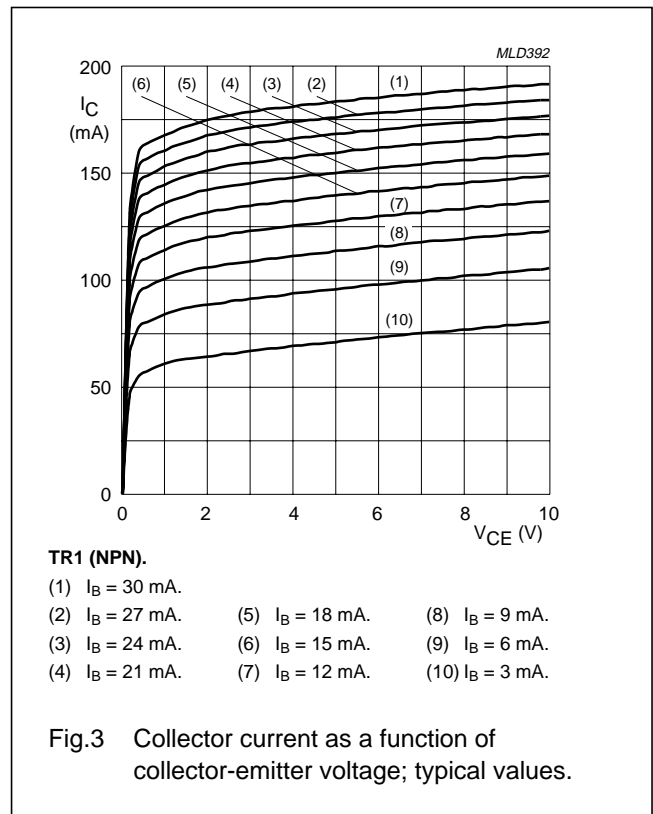
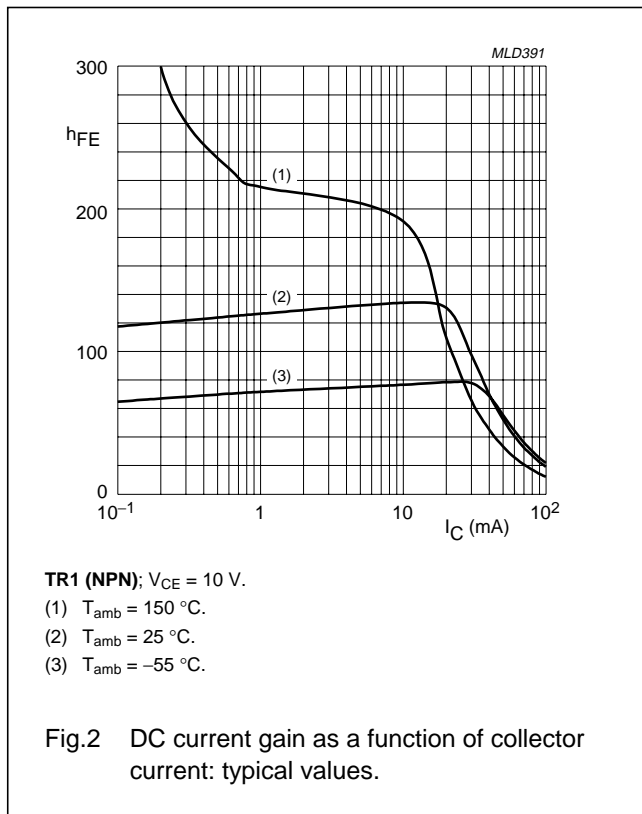
Note

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

CHARACTERISTICS

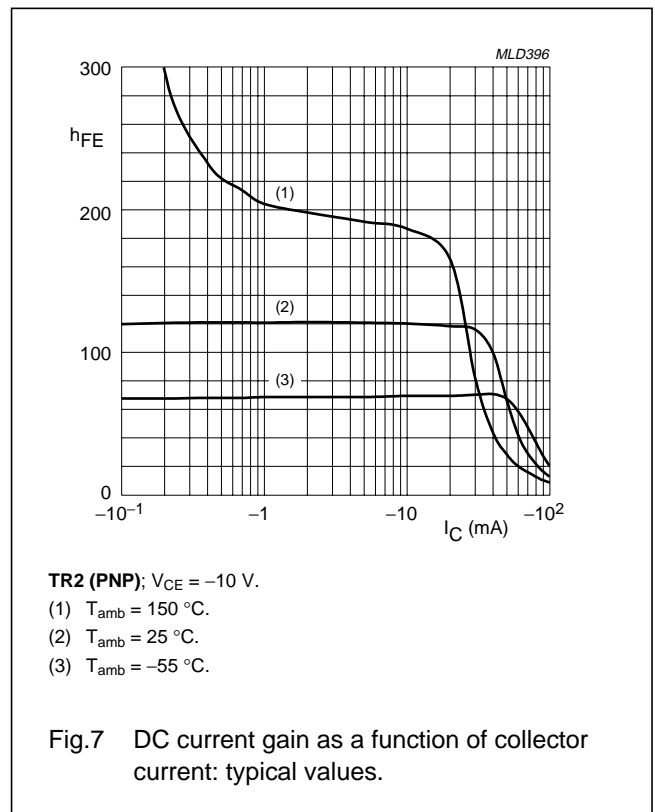
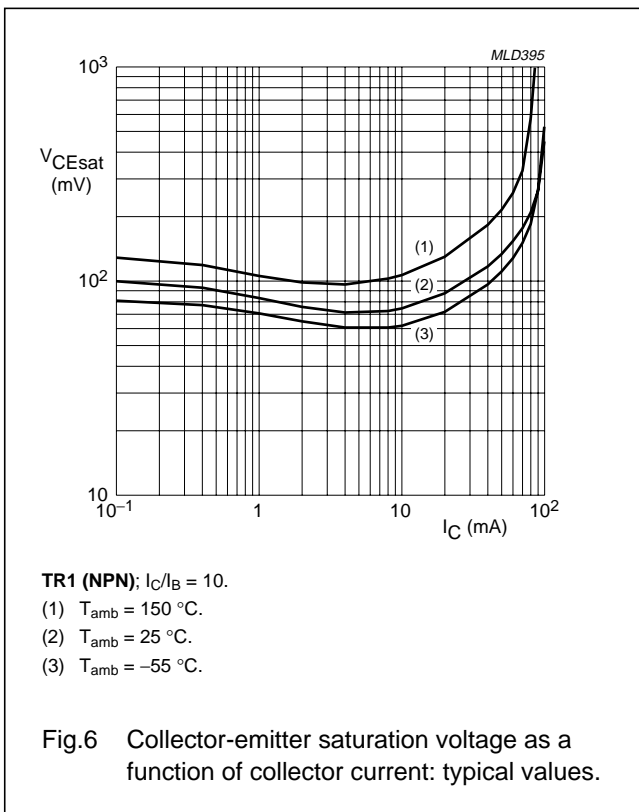
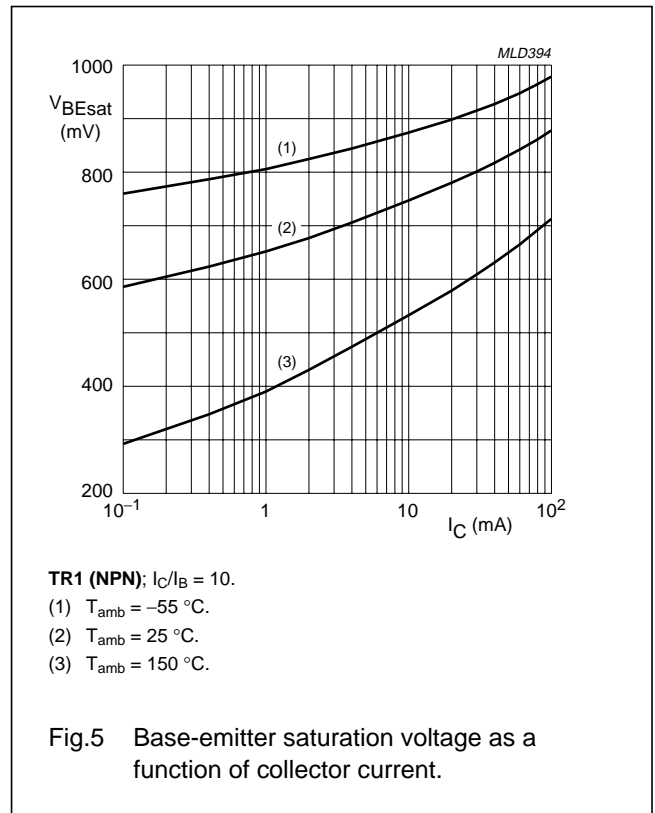
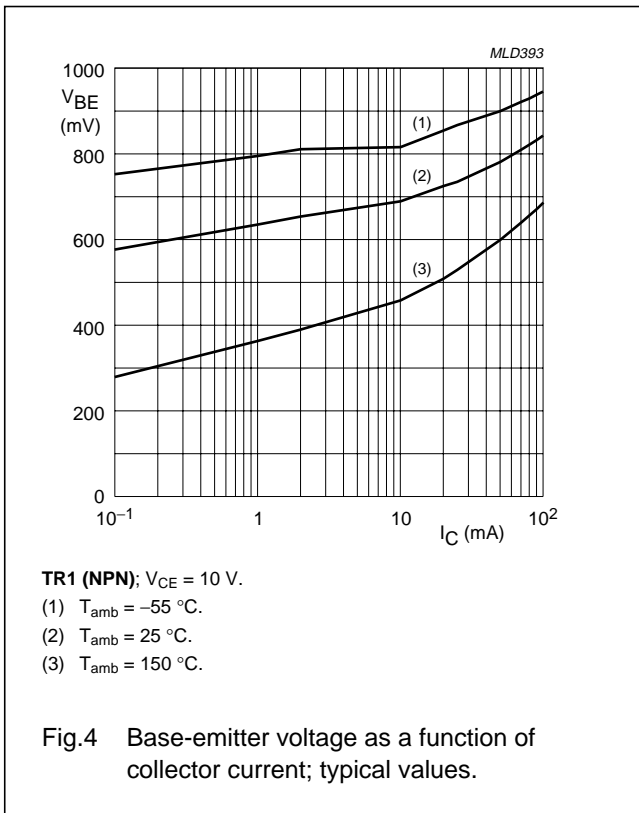
$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Per transistor; for the PNP transistor with negative polarity					
I_{CBO}	collector-base cut-off current	$I_E = 0; V_{CB} = 300\text{ V};$	–	50	nA
		$I_E = 0; V_{CB} = 250\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$	–	50	μA
I_{EBO}	emitter-base cut-off current	$I_C = 0; V_{EB} = 5\text{ V}$	–	100	nA
h_{FE}	DC current gain	$I_C = 1\text{ mA}; V_{CE} = 10\text{ V}$	60	–	
		$I_C = 30\text{ mA}; V_{CE} = 10\text{ V}$	50	–	
V_{CEsat}	saturation voltage	$I_C = 20\text{ mA}; I_B = 2\text{ mA}$	–	250	mV
V_{BEsat}	saturation voltage	$I_C = 20\text{ mA}; I_B = 2\text{ mA}$	–	850	mV
C_c	collector capacitance	$I_E = I_e = 0; V_{CB} = 20\text{ V}; f = 1\text{ MHz}$	–	6	pF
f_T	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 20\text{ V}; f = 100\text{ MHz}$	50	–	MHz



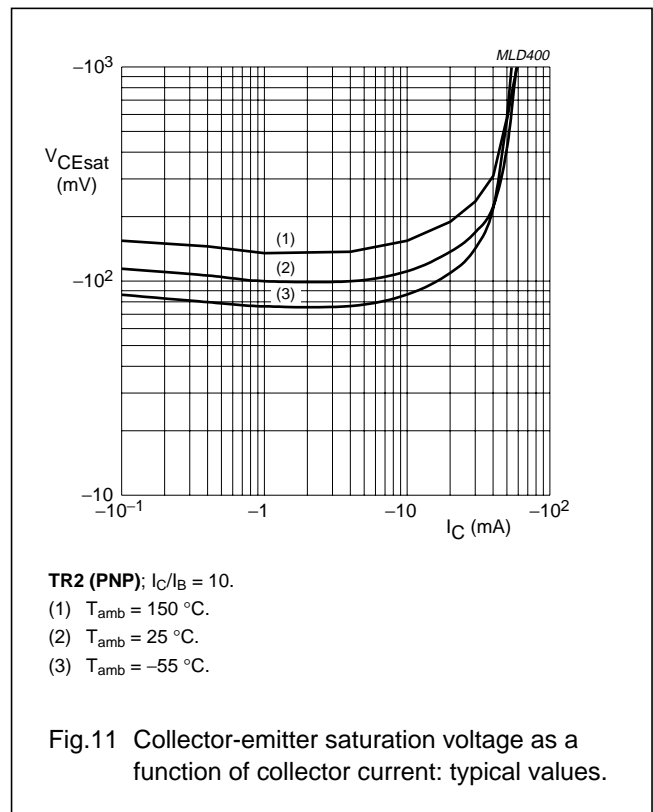
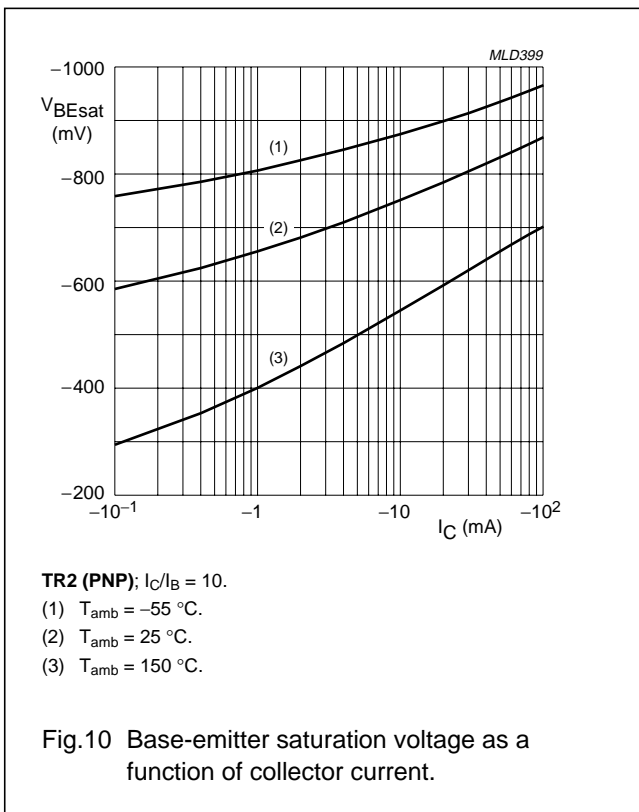
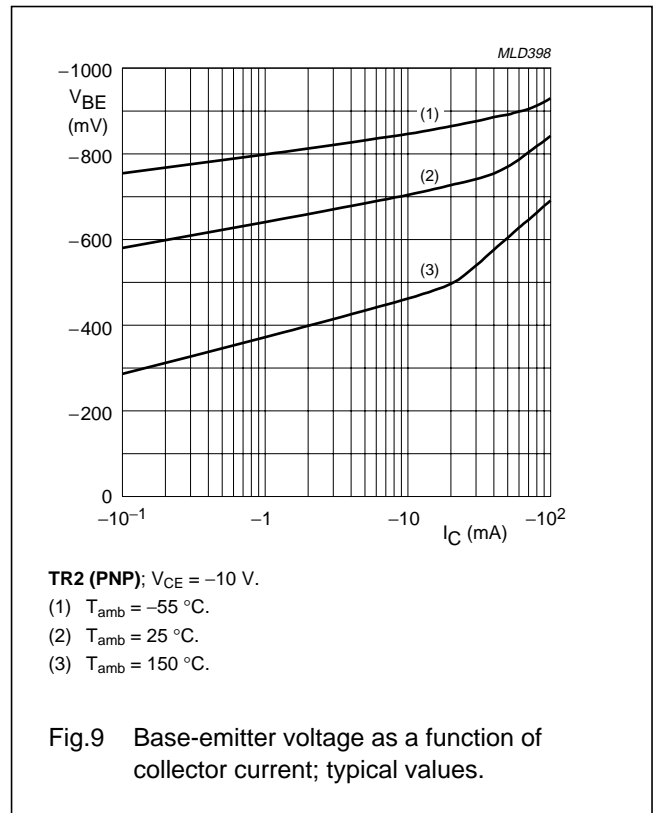
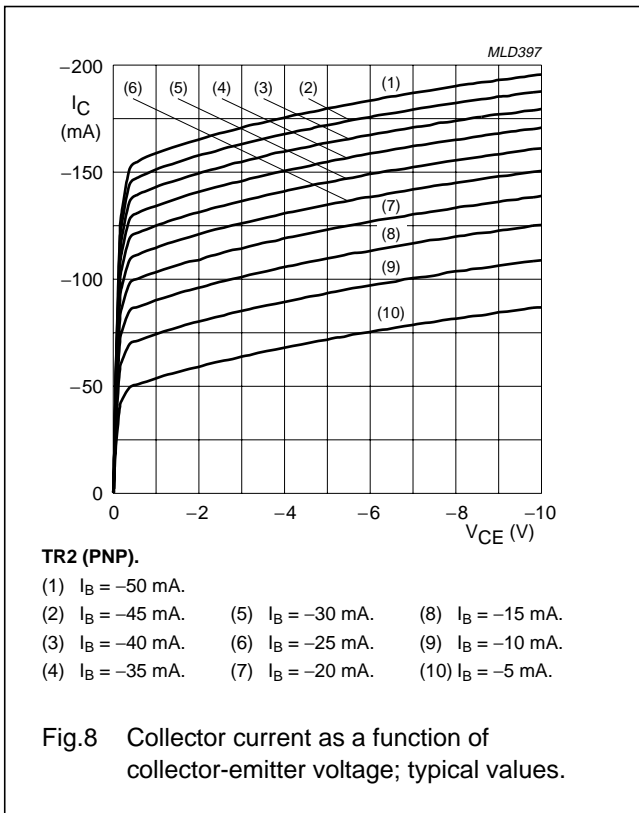
NPN/PNP high voltage transistors

BF485PN



NPN/PNP high voltage transistors

BF485PN



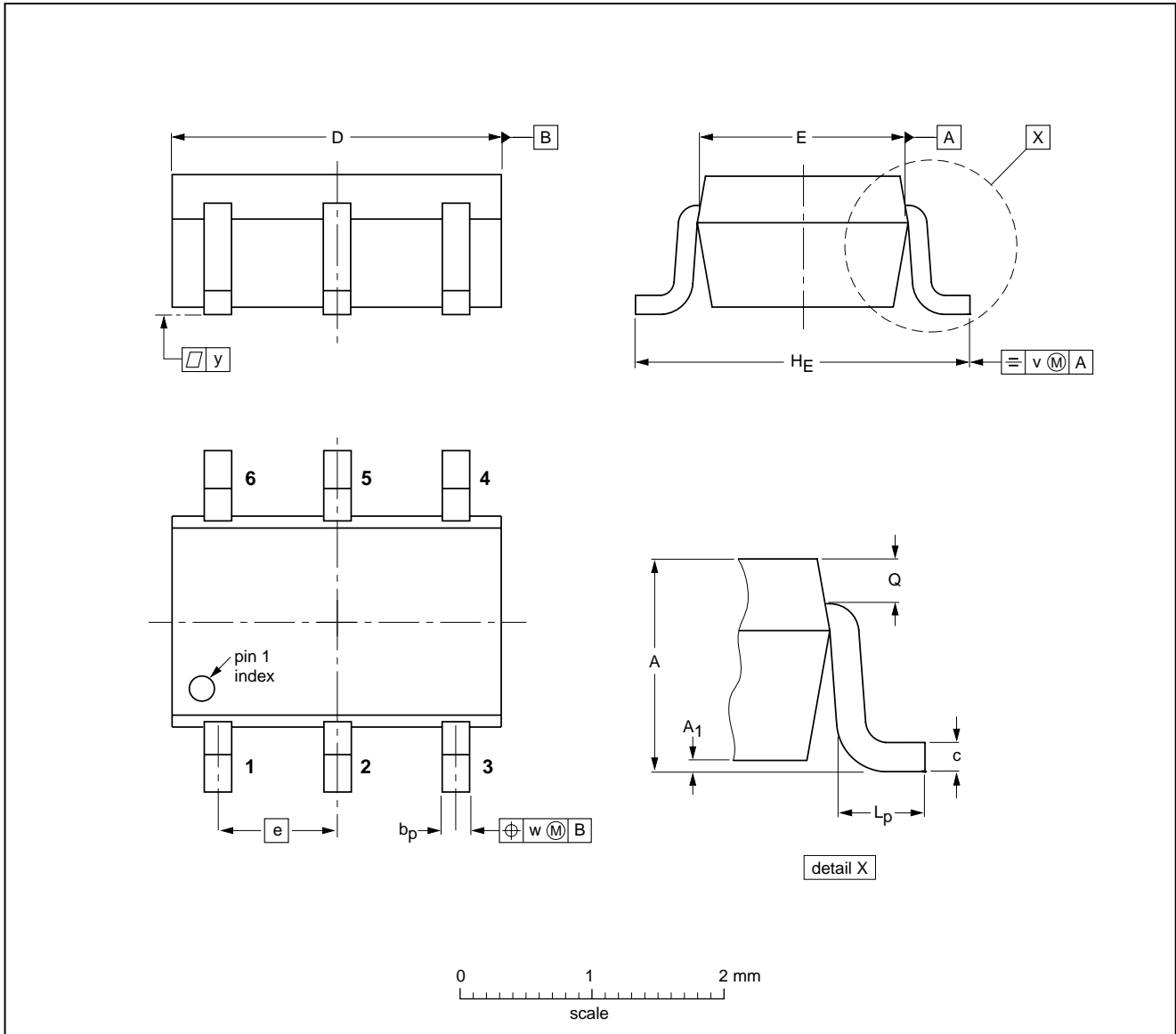
NPN/PNP high voltage transistors

BF485PN

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁	bp	c	D	E	e	H _E	L _p	Q	v	w	y
mm	1.1 0.9	0.1 0.013	0.40 0.25	0.26 0.10	3.1 2.7	1.7 1.3	0.95	3.0 2.5	0.6 0.2	0.33 0.23	0.2	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT457			SC-74			97-02-28

NPN/PNP high voltage transistors

BF485PN

DATA SHEET STATUS

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS ⁽¹⁾
Objective specification	Development	This data sheet contains the design target or goal specifications for product development. Specification may change in any manner without notice.
Preliminary specification	Qualification	This data sheet contains preliminary data, and supplementary data will be published at a later date. Philips Semiconductors reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Philips Semiconductors reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

Note

1. Please consult the most recently issued data sheet before initiating or completing a design.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — 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.

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