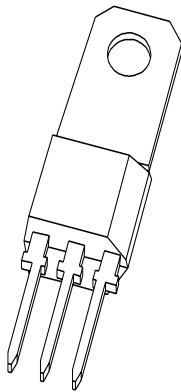


# DATA SHEET



## **BF585; BF587** NPN high-voltage transistors

Product specification  
Supersedes data of 1996 Dec 09

1999 Apr 21

# NPN high-voltage transistors

# BF585; BF587

### FEATURES

- Low feedback capacitance.

### APPLICATIONS

- For use in video output stages of black and white and colour television receivers.

### DESCRIPTION

NPN transistors in a TO-202; SOT128B plastic package.  
PNP complement: BF588.

### PINNING

PIN	DESCRIPTION
1	emitter
2	collector
3	base

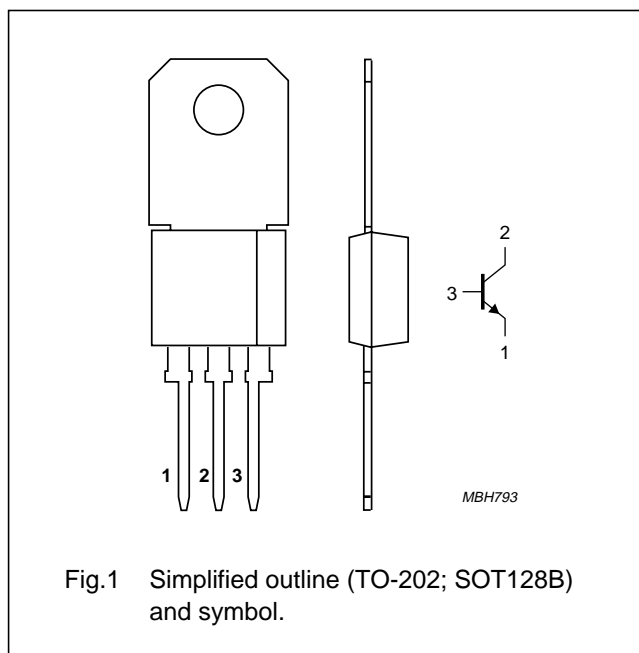


Fig.1 Simplified outline (TO-202; SOT128B) and symbol.

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CB0</sub>	collector-base voltage	open emitter			
	BF585		–	350	V
	BF587		–	400	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BF585		–	300	V
	BF587		–	350	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	5	V
I <sub>C</sub>	collector current (DC)		–	100	mA
I <sub>CM</sub>	peak collector current		–	200	mA
I <sub>BM</sub>	peak base current		–	100	mA
P <sub>tot</sub>	total power dissipation	in free air; T <sub>amb</sub> ≤ 25 °C	–	1.6	W
		in free air; T <sub>mb</sub> ≤ 25 °C	–	5	W
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C
T <sub>amb</sub>	operating ambient temperature		–65	+150	°C

## NPN high-voltage transistors

BF585; BF587

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	78	K/W
$R_{th\ j-mb}$	thermal resistance from junction to mounting base	25	K/W

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 300\text{ V}$	–	20	nA
		$I_E = 0; V_{CB} = 250\text{ V}; T_j = 150\text{ °C}$	–	20	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = 5\text{ V}$	–	100	nA
$h_{FE}$	DC current gain	$I_C = 25\text{ mA}; V_{CE} = 20\text{ V}$	50	–	
		$I_C = 40\text{ mA}; V_{CE} = 20\text{ V}$	20	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 30\text{ mA}; I_B = 5\text{ mA}$	–	600	mV
$C_c$	collector capacitance	$I_E = i_e = 0; V_{CB} = 30\text{ V}; f = 1\text{ MHz}$	–	2.5	pF
$C_{re}$	feedback capacitance	$I_C = i_c = 0; V_{CE} = 30\text{ V}; f = 1\text{ MHz}$	–	1.8	pF
$f_T$	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}$	70	110	MHz

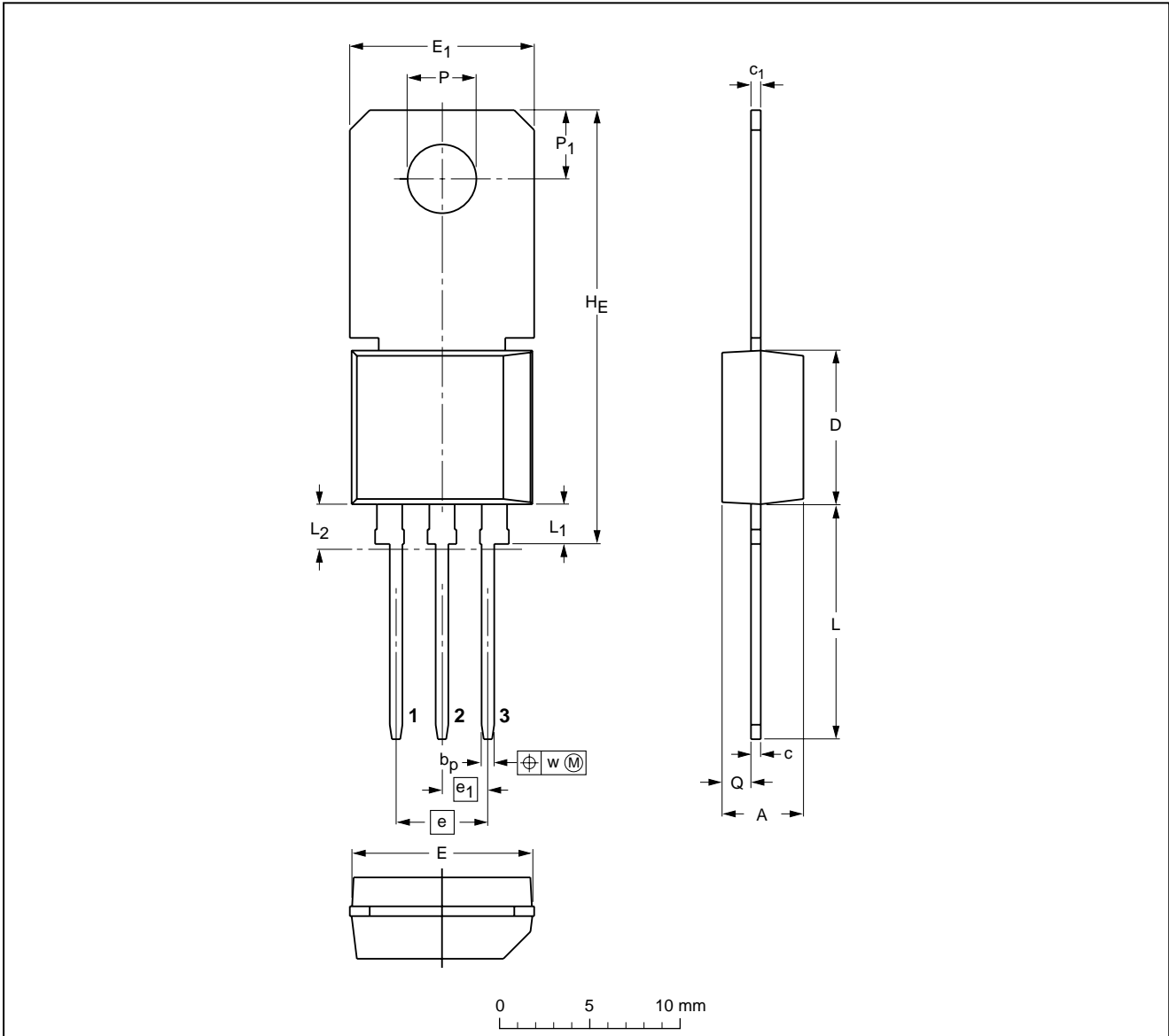
NPN high-voltage transistors

BF585; BF587

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; with cooling fin, mountable to heatsink, 1 mounting hole; 3 leads (in-line)

SOT128B



DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p</sub>	c	c <sub>1</sub>	D	E	E <sub>1</sub>	e	e <sub>1</sub>	H <sub>E</sub>	L	L <sub>1</sub>	L <sub>2</sub> <sup>(1)</sup> max	P	P <sub>1</sub>	Q	w
mm	4.6 4.4	0.8 0.6	0.65 0.5	0.56 0.46	8.6 8.4	10.1 9.9	10.4 10.0	5.08	2.54	24.2 23.8	13.3 12.2	2.4 2.0	2.5	3.8 3.6	3.9 3.7	1.7 1.5	0.25

Note  
1. Plastic flash allowed within this zone

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT128B		TO-202				97-02-28

## NPN high-voltage transistors

BF585; BF587

**DEFINITIONS**

<b>Data sheet status</b>	
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.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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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NPN high-voltage transistors

BF585; BF587

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**NOTES**

NPN high-voltage transistors

BF585; BF587

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**NOTES**

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