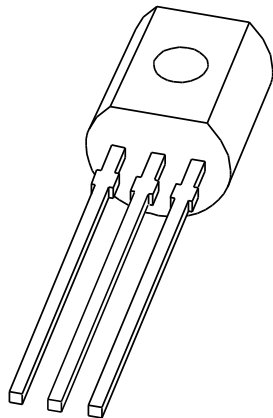


# DATA SHEET



## **BF483; BF485; BF487** NPN high-voltage transistors

Product specification  
Supersedes data of September 1994  
File under Discrete Semiconductors, SC04

1996 Dec 09

# NPN high-voltage transistors

# BF483; BF485; BF487

### FEATURES

- Low feedback capacitance.

### APPLICATIONS

- Intended for use in video output stages in black-and-white and in colour television receivers.

### DESCRIPTION

NPN transistors in a TO-92 plastic package.

### PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter

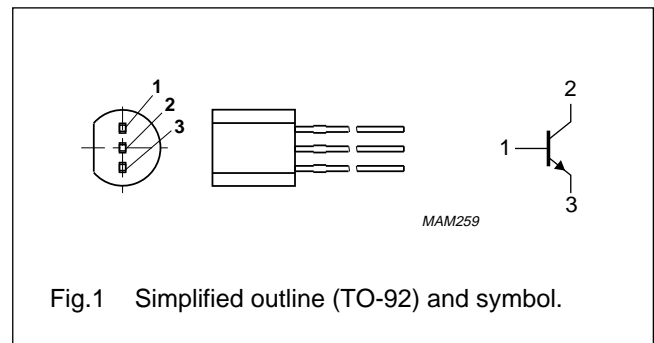


Fig.1 Simplified outline (TO-92) and symbol.

### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage	open emitter			
	BF483		–	300	V
	BF485		–	350	V
	BF487		–	400	V
$V_{CEO}$	collector-emitter voltage	open base			
	BF483		–	250	V
	BF485		–	300	V
	BF487		–	350	V
$I_{CM}$	peak collector current		–	100	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$	–	830	mW
$h_{FE}$	DC current gain	$I_C = 25\text{ mA}; V_{CE} = 20\text{ V}$	50	–	
$C_{re}$	feedback capacitance	$I_C = i_c = 0; V_{CE} = 30\text{ V}; f = 1\text{ MHz}$	–	1.4	pF
$f_T$	transition frequency	$I_C = -10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	70	110	MHz

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**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter			
	BF483		–	300	V
	BF485		–	350	V
	BF487		–	400	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BF483		–	250	V
	BF485		–	300	V
	BF487		–	350	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	5	V
I <sub>C</sub>	collector current (DC)		–	50	mA
I <sub>CM</sub>	peak collector current		–	100	mA
I <sub>BM</sub>	peak base current		–	50	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	830	mW
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

**Note**

1. Transistor mounted on a printed-circuit board.

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	thermal resistance from junction to ambient	note 1	150	K/W

**Note**

1. Transistor mounted on a printed-circuit board.

**CHARACTERISTICS**

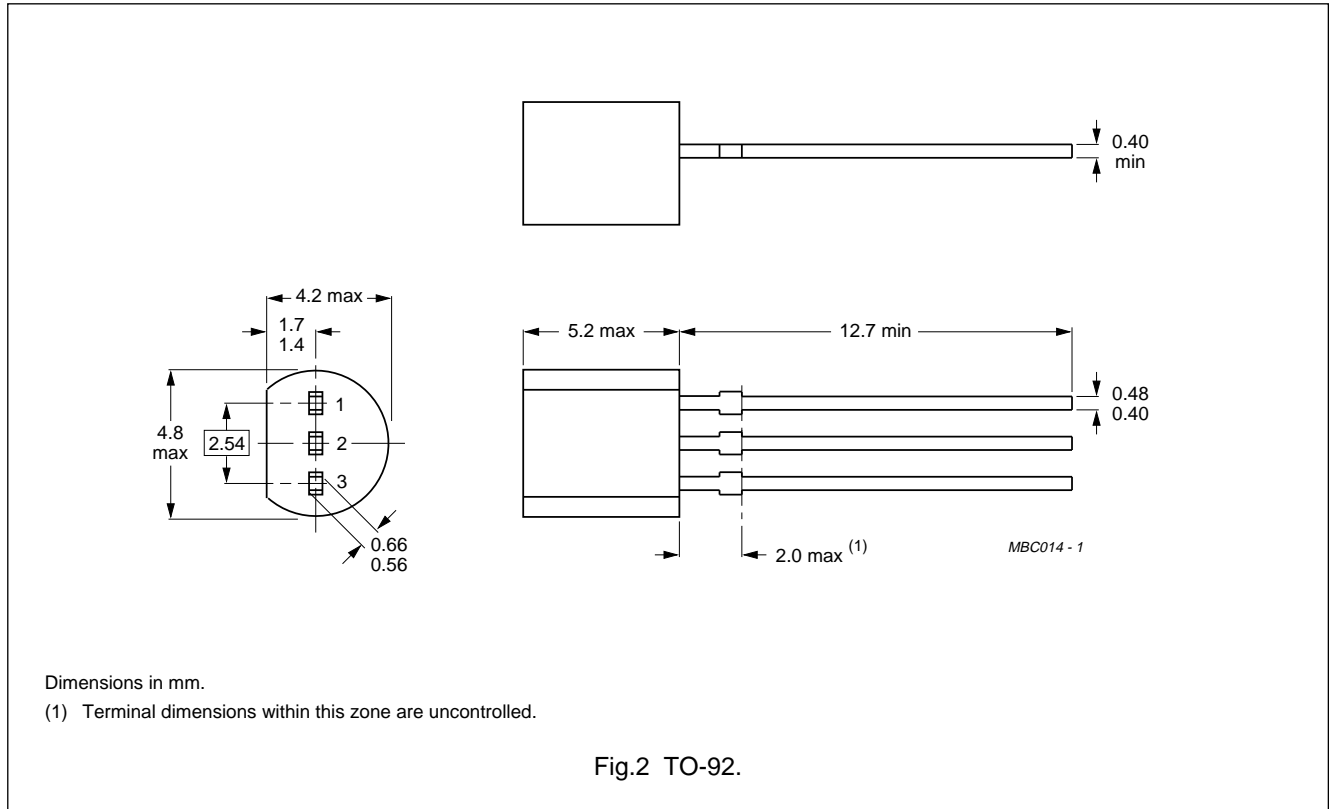
T<sub>j</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I <sub>CBO</sub>	collector cut-off current	I <sub>E</sub> = 0; V <sub>CB</sub> = 300 V	–	20	nA
		I <sub>E</sub> = 0; V <sub>CB</sub> = 250 V; T <sub>j</sub> = 150 °C	–	20	μA
I <sub>EBO</sub>	emitter cut-off current	I <sub>C</sub> = 0; V <sub>EB</sub> = 5 V	–	100	nA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> = 25 mA; V <sub>CE</sub> = 20 V	50	–	
		I <sub>C</sub> = 40 mA; V <sub>CE</sub> = 20 V	20	–	
V <sub>CEsat</sub>	collector-emitter saturation voltage	I <sub>C</sub> = 30 mA; I <sub>B</sub> = 5 mA	–	600	mV
C <sub>re</sub>	feedback capacitance	I <sub>C</sub> = I <sub>c</sub> = 0; V <sub>CE</sub> = 30 V; f = 1 MHz	–	1.4	pF
f <sub>T</sub>	transition frequency	I <sub>C</sub> = –10 mA; V <sub>CE</sub> = 10 V; f = 100 MHz	70	110	MHz

NPN high-voltage transistors

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PACKAGE OUTLINE



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 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.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

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