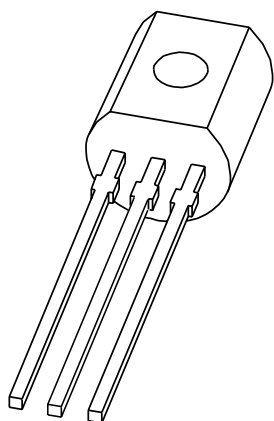


# DATA SHEET



## **BF421; BF423** PNP high voltage transistors

Product specification  
Supersedes data of 1996 Dec 09

2004 Nov 10

## PNP high voltage transistors

## BF421; BF423

## FEATURES

- Low feedback capacitance.

## APPLICATIONS

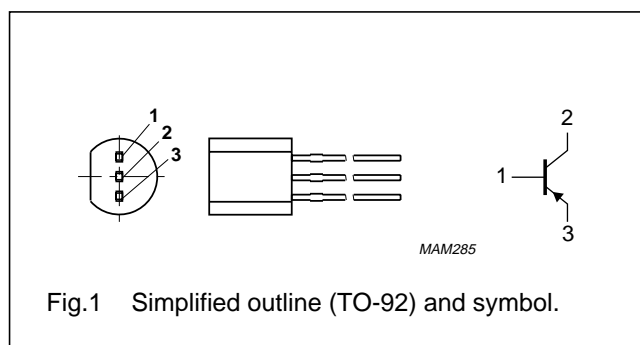
- Class-B video output stages in colour television and professional monitor equipment.

## DESCRIPTION

PNP transistors in a TO-92 plastic package.  
NPN complements: BF420 and BF422.

## PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter



## ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BF421	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54
BF423			

## QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage	open emitter	—	—300	V
	BF421		—	—250	V
$V_{CEO}$	collector-emitter voltage	open base	—	—300	V
	BF421		—	—250	V
$I_{CM}$	peak collector current		—	—100	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$	—	830	mW
$h_{FE}$	DC current gain	$V_{CE} = -20\text{ V}; I_C = -25\text{ mA}$	50	—	
$C_{re}$	feedback capacitance	$V_{CE} = -30\text{ V}; I_C = i_c = 0\text{ A}; f = 1\text{ MHz}$	—	1.6	pF
$f_T$	transition frequency	$V_{CE} = -10\text{ V}; I_C = -10\text{ mA}; f = 100\text{ MHz}$	60	—	MHz

## PNP high voltage transistors

## BF421; BF423

## 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			
	BF421		–	–300	V
	BF423		–	–250	V
$V_{CEO}$	collector-emitter voltage	open base			
	BF421		–	–300	V
	BF423		–	–250	V
$V_{EBO}$	emitter-base voltage	open collector	–	–5	V
$I_C$	collector current (DC)		–	–50	mA
$I_{CM}$	peak collector current		–	–100	mA
$I_{BM}$	peak base current		–	–50	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$ ; note 1	–	830	mW
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C
$T_{amb}$	ambient temperature		–65	+150	°C

## Note

1. Transistor mounted on a printed-circuit board.

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	150	K/W

## Note

1. Transistor mounted on a printed-circuit board.

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -200\text{ V}$ ; $I_E = 0\text{ A}$	–	–10	nA
		$V_{CB} = -200\text{ V}$ ; $I_E = 0\text{ A}$ ; $T_j = 150\text{ °C}$	–	–10	μA
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -5\text{ V}$ ; $I_C = 0\text{ A}$	–	–50	nA
$h_{FE}$	DC current gain	$V_{CE} = -20\text{ V}$ ; $I_C = -25\text{ mA}$	50	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -30\text{ mA}$ ; $I_B = -5\text{ mA}$	–	–0.6	V
$C_{re}$	feedback capacitance	$V_{CE} = -30\text{ V}$ ; $I_C = i_c = 0\text{ A}$ ; $f = 1\text{ MHz}$	–	1.6	pF
$f_T$	transition frequency	$V_{CE} = -10\text{ V}$ ; $I_C = -10\text{ mA}$ ; $f = 100\text{ MHz}$	60	–	MHz

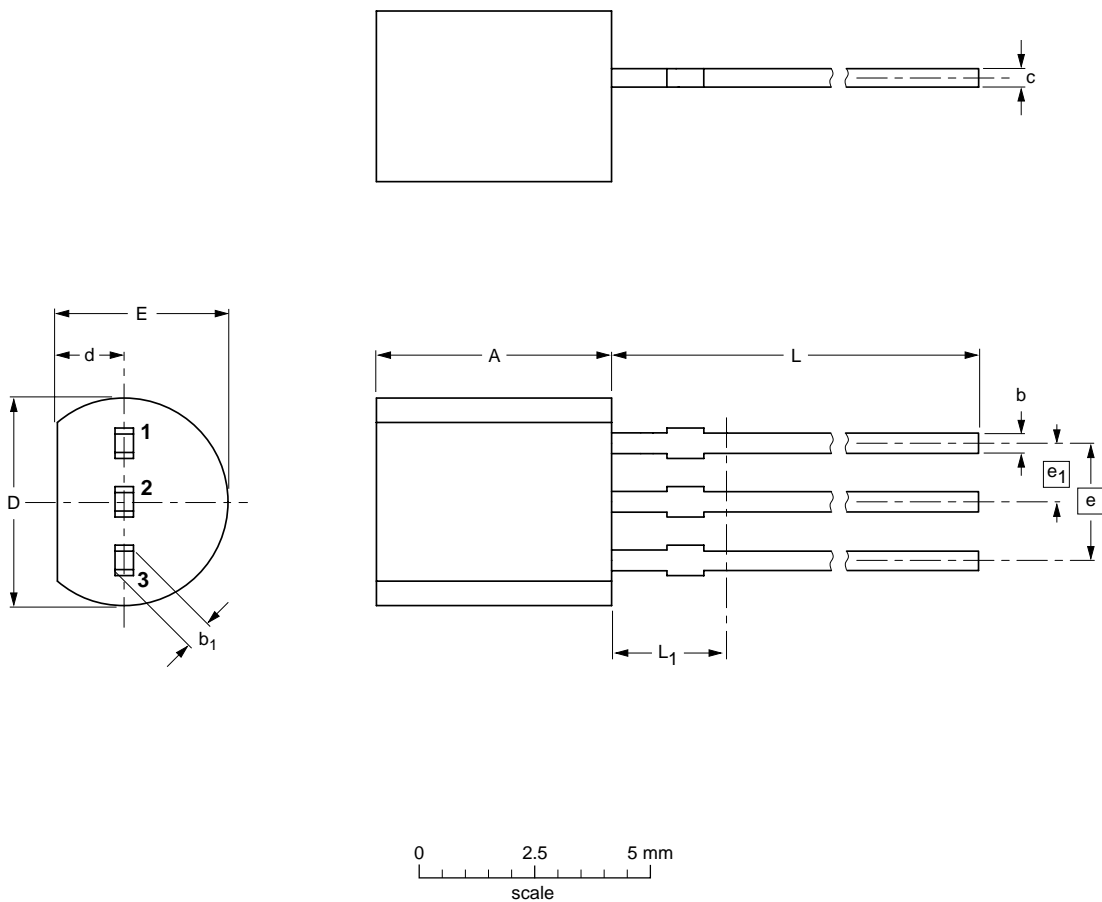
PNP high voltage transistors

BF421; BF423

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			<del>97-02-28</del> 04-06-28

## PNP high voltage transistors

BF421; BF423

## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	DEFINITION
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## **Contact information**

For additional information please visit **<http://www.semiconductors.philips.com>**. Fax: **+31 40 27 24825**

For sales offices addresses send e-mail to: **[sales.addresses@www.semiconductors.philips.com](mailto:sales.addresses@www.semiconductors.philips.com)**.

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