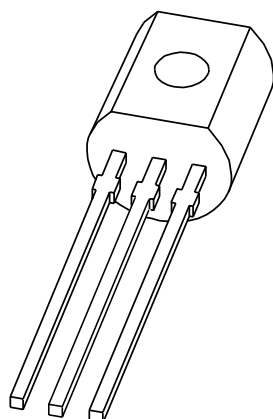


DATA SHEET



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

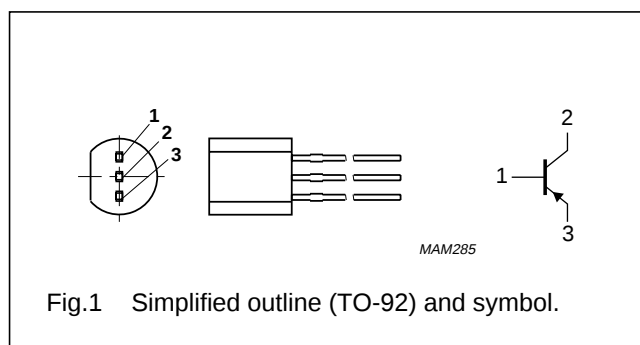
- Class-B video output stages in colour television and professional monitor equipment.

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

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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54

Technical drawing of the SOT54 package showing three views: a top view, a side view, and a lead view. The top view shows a circular body with three leads (1, 2, 3) and dimensions D, d, E, and b₁. The side view shows the package body with dimensions A, L, and L₁. The lead view shows the three leads with dimensions b, e₁, e, and c. A scale bar indicates 0, 2.5, and 5 mm.

DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b ₁	c	D	d	E	e	e ₁	L	L ₁ ⁽¹⁾ 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			-97-02-28 04-06-28

PNP high voltage transistors

BF421; BF423

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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