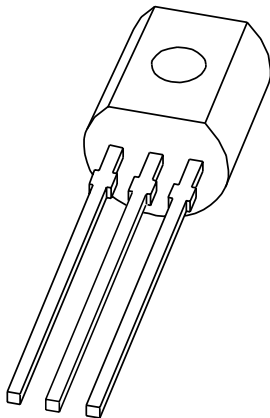


DATA SHEET



BF421L; BF423L **PNP high-voltage transistors**

Product specification
Supersedes data of 1997 Apr 18

1999 Apr 21

PNP high-voltage transistors

BF421L; BF423L

FEATURES

- Low current (max. 50 mA)
- High voltage (max. 300 V)
- Available with a higher power rating (830 mW) under type numbers: BF423.

APPLICATIONS

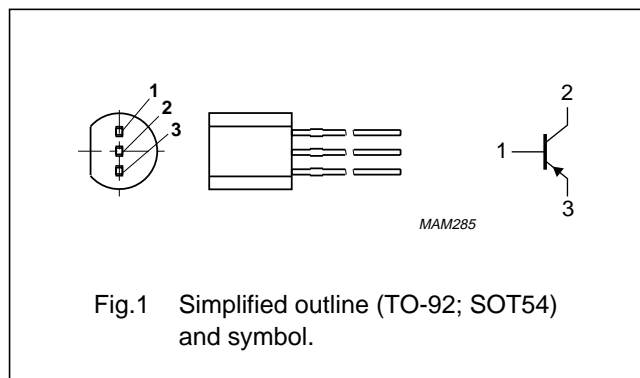
- Primarily intended for telephony applications.

DESCRIPTION

PNP transistor in a TO-92; SOT54 plastic package.
NPN complement: BF422L.

PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter			
	BF421L		–	–300	V
	BF423L		–	–250	V
V _{CEO}	collector-emitter voltage	open base			
	BF421L		–	–300	V
	BF423L		–	–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		–	–100	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C	–	625	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

PNP high-voltage transistors

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	200	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = -200\text{ V}$	–	–10	nA
		$I_E = 0; V_{CB} = -200\text{ V}; T_j = 150\text{ °C}$	–	–10	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–10	μA
h_{FE}	DC current gain	$I_C = -25\text{ mA}; V_{CE} = -20\text{ V}$	50	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -30\text{ mA}; I_B = -5\text{ mA}; \text{note 1}$	–	–600	mV
C_{re}	feedback capacitance	$I_C = i_c = 0; V_{CE} = -30\text{ V}; f = 1\text{ MHz}$	–	1.6	pF
f_T	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -10\text{ V}; f = 100\text{ MHz}$	60	–	MHz

Note

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

PNP high-voltage transistors

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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

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

PNP high-voltage transistors

BF421L; BF423L

NOTES

PNP high-voltage transistors

BF421L; BF423L

NOTES

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