

**PNP high-voltage transistors**

**BF470; BF472**

**FEATURES**

- Low feedback capacitance.

**APPLICATIONS**

- Class-B video output stages in television receivers and for high-voltage IF output stages.

**DESCRIPTION**

PNP transistors in a TO-126; SOT32 plastic package.  
NPN complements: BF469 and BF471.

**PINNING**

PIN	DESCRIPTION
1	emitter
2	collector, connected to mounting base
3	base

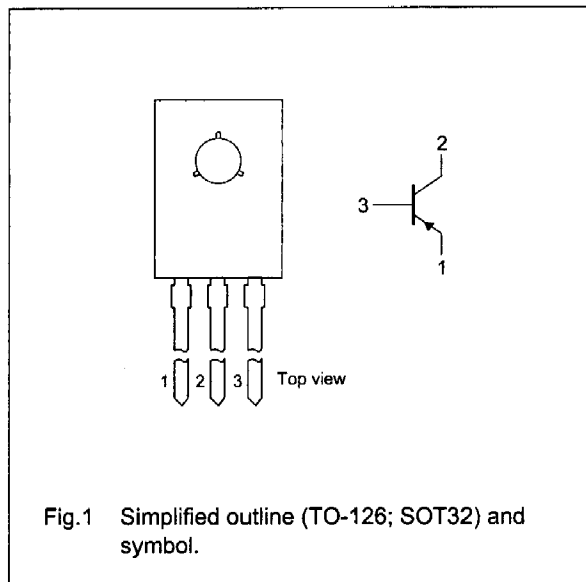
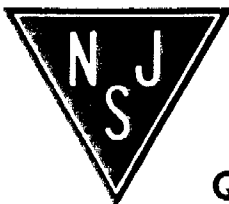


Fig.1 Simplified outline (TO-126; SOT32) and symbol.

**QUICK REFERENCE DATA**

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter			
	BF470		-	-250	V
	BF472		-	-300	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BF470		-	-250	V
	BF472		-	-300	V
I <sub>CM</sub>	peak collector current		-	-100	mA
P <sub>tot</sub>	total power dissipation	T <sub>mb</sub> ≤ 114 °C	-	1.8	W
h <sub>FE</sub>	DC current gain	I <sub>C</sub> = -25 mA; V <sub>CE</sub> = -20 V	50	-	
C <sub>re</sub>	feedback capacitance	I <sub>C</sub> = I <sub>c</sub> = 0; V <sub>CE</sub> = -30 V; f = 1 MHz	-	1.8	pF
f <sub>T</sub>	transition frequency	I <sub>C</sub> = -10 mA; V <sub>CE</sub> = -10 V; f = 100 MHz	60	-	MHz



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## PNP high-voltage transistors

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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			
	BF470		–	–250	V
	BF472		–	–300	V
V <sub>CEO</sub>	collector-emitter voltage	open base			
	BF470		–	–250	V
	BF472		–	–300	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>mb</sub> ≤ 114 °C	–	1.8	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

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	thermal resistance from junction to ambient	in free air; note 1	100	K/W
R <sub>th j-mb</sub>	thermal resistance from junction to mounting base		20	K/W

#### Note

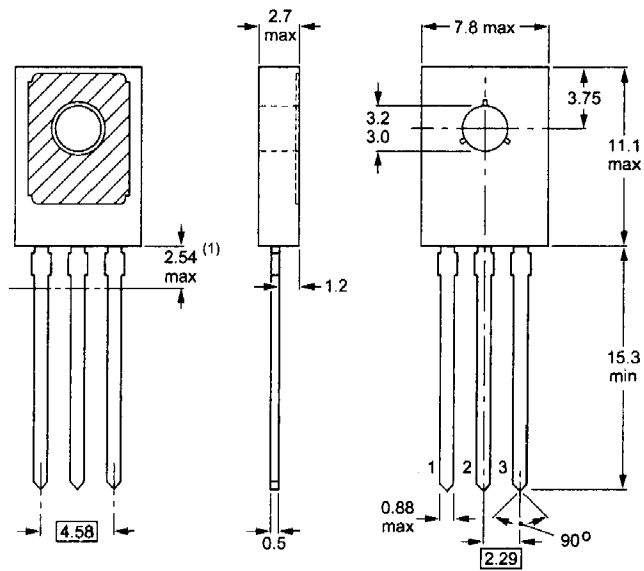
1. Transistor mounted on a printed-circuit board, maximum lead length 4 mm; mounting pad for collector lead minimum 10 × 10 mm.

### 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> = –200 V	–	–10	nA
		I <sub>E</sub> = 0; V <sub>CB</sub> = –200 V; T <sub>j</sub> = 150 °C	–	–10	μA
I <sub>EBO</sub>	emitter cut-off current	I <sub>C</sub> = 0; V <sub>EB</sub> = –5 V	–	–50	nA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> = –25 mA; V <sub>CE</sub> = –20 V	50	–	
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	–	1.8	pF
f <sub>r</sub>	transition frequency	I <sub>C</sub> = –10 mA; V <sub>CE</sub> = –10 V; f = 100 MHz	60	–	MHz

PACKAGE OUTLINE



Dimensions in mm.

(1) Terminal dimensions within this zone are uncontrolled.

Fig.2 TO-126; SOT32.