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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

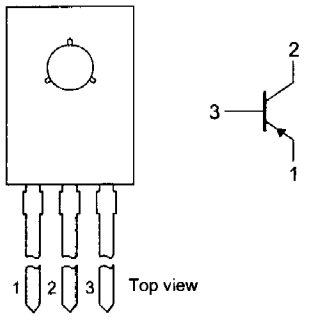


Fig.1 Simplified outline (TO-126; SOT32) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	BF470		–	–250	V
	BF472		–	–300	V
V_{CEO}	collector-emitter voltage	open base			
	BF470		–	–250	V
	BF472		–	–300	V
I_{CM}	peak collector current		–	–100	mA
P_{tot}	total power dissipation	$T_{mb} \leq 114$ °C	–	1.8	W
h_{FE}	DC current gain	$I_C = -25$ mA; $V_{CE} = -20$ V	50	–	
C_{re}	feedback capacitance	$I_C = i_c = 0$; $V_{CE} = -30$ V; f = 1 MHz	–	1.8	pF
f_T	transition frequency	$I_C = -10$ mA; $V_{CE} = -10$ V; f = 100 MHz	60	–	MHz

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			
	BF470		–	–250	V
	BF472		–	–300	V
V_{CEO}	collector-emitter voltage	open base			
	BF470		–	–250	V
	BF472		–	–300	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	$T_{mb} \leq 114$ °C	–	1.8	W
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	in free air; note 1	100	K/W
$R_{th\ j\text{-}mb}$	thermal resistance from junction to mounting base		20	K/W

Note

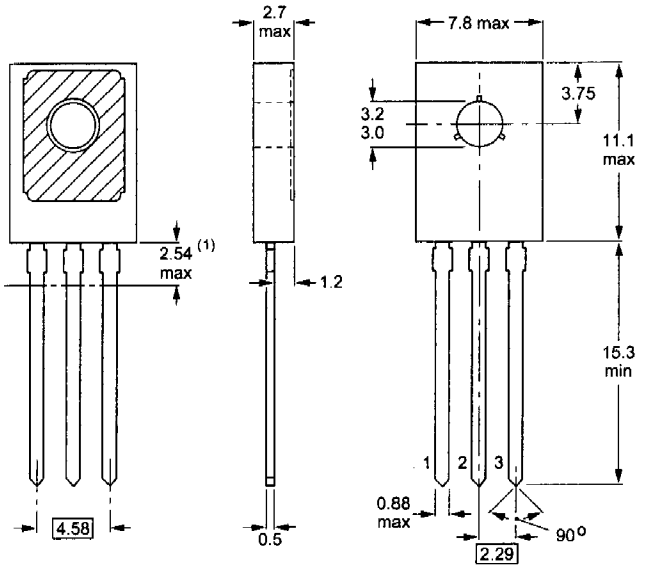
1. Transistor mounted on a printed-circuit board, maximum lead length 4 mm; mounting pad for collector lead minimum 10 × 10 mm.

CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = –200 V	–	–10	nA
		I_E = 0; V_{CB} = –200 V; T_j = 150 °C	–	–10	µA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = –5 V	–	–50	nA
h_{FE}	DC current gain	I_C = –25 mA; V_{CE} = –20 V	50	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = –30 mA; I_B = –5 mA	–	–600	mV
C_{re}	feedback capacitance	$I_C = i_c$ = 0; V_{CE} = –30 V; f = 1 MHz	–	1.8	pF
f_T	transition frequency	I_C = –10 mA; V_{CE} = –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.