

NPN high-voltage transistors

BF469; BF471

FEATURES

- Low feedback capacitance.

APPLICATIONS

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

DESCRIPTION

NPN transistors in a TO-126; SOT32 plastic package.
 PNP complements: BF470 and BF472.

PINNING

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

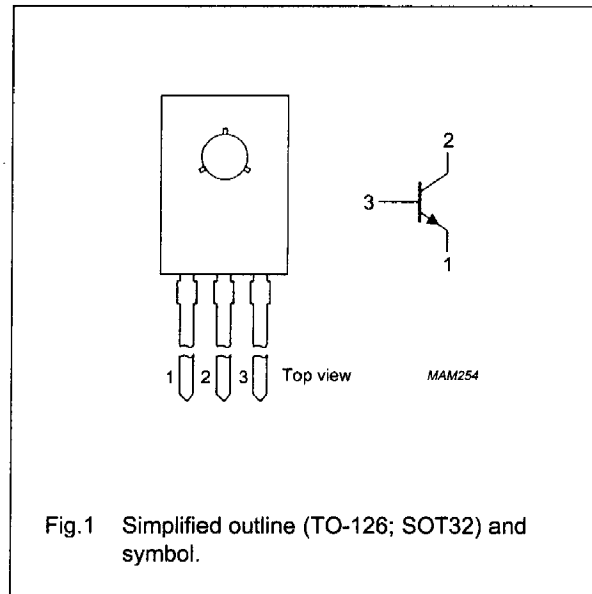


Fig.1 Simplified outline (TO-126; SOT32) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	BF469		-	250	V
	BF471		-	300	V
V_{CEO}	collector-emitter voltage	open base			
	BF469		-	250	V
	BF471		-	300	V
I_{CM}	peak collector current		-	100	mA
P_{tot}	total power dissipation	$T_{mb} \leq 114^\circ C$	-	1.8	W
h_{FE}	DC current gain	$I_C = 25\text{ mA}; V_{CE} = 20\text{ V}$	50	-	
C_{re}	feedback capacitance	$I_C = I_c = 0; V_{CE} = 30\text{ V}; f = 1\text{ MHz}$	-	1.8	pF
f_T	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	60	-	MHz



NPN high-voltage transistors

BF469; BF471

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CB0}	collector-base voltage	open emitter	-	250	V
	BF469			300	V
V _{CEO}	collector-emitter voltage	open base	-	250	V
	BF471			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} ≤ 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-a}	thermal resistance from junction to ambient	in free air; note 1	100	K/W
R _{th j-mb}	thermal resistance from junction to mounting base		20	K/W

Note

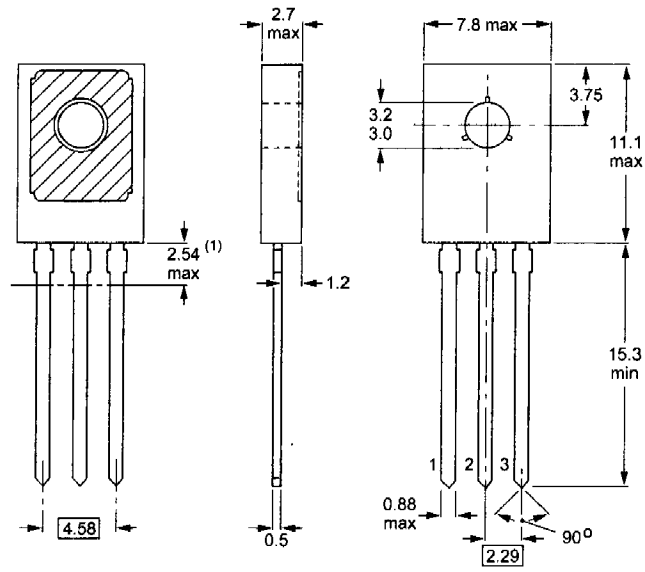
1. Transistor mounted on a printed-circuit board, maximum lead length 4 mm, mounting pad for collector lead minimum 10 × 10 mm.

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	-	0.6	V
C _{re}	feedback capacitance	I _C = I _E = 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.