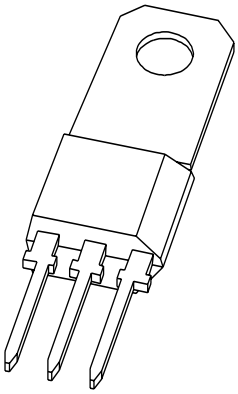
DATA SHEET



BF869; BF871
NPN high-voltage transistors

Product specification
Supersedes data of 1996 Dec 09

1999 Apr 12

Philips
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NPN high-voltage transistors BF869; BF871

FEATURES

- Low feedback capacitance.

APPLICATIONS

- For use in class-B video output stages in colour television receivers.

DESCRIPTION

NPN transistors in a TO-202 plastic package.
PNP complement: BF872.

PINNING

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

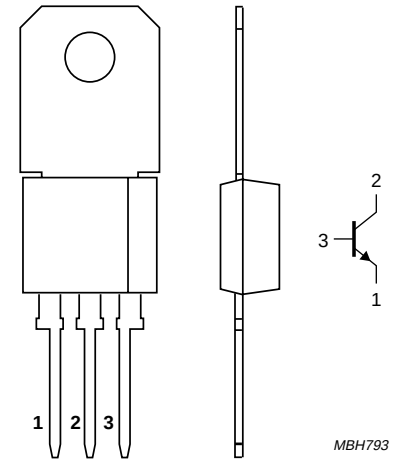


Fig.1 Simplified outline (TO-202) and symbol.

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			
	BF869		–	250	V
	BF871		–	300	V
V_{CEO}	collector-emitter voltage	open base			
	BF869		–	250	V
	BF871		–	300	V
V_{EBO}	emitter-base voltage	open collector	–	5	V
I_C	collector current (DC)		–	50	mA
I_{CM}	peak collector current	peak value	–	100	mA
I_{BM}	peak base current		–	50	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	–	1.6	W
		$T_{mb} \leq 25$ °C	–	5	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	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	78	K/W
$R_{th\ j\text{-}mb}$	thermal resistance from junction to mounting base	25	K/W

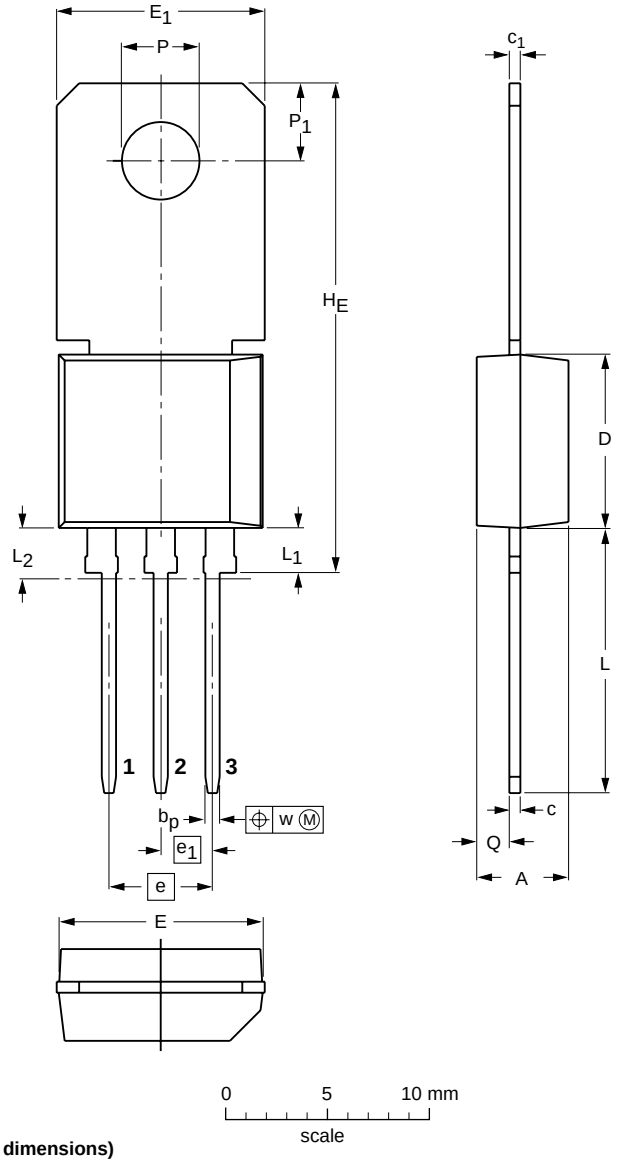
CHARACTERISTICS

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	–	2	pF
f_T	transition frequency	I_C = 10 mA; V_{CE} = 10 V; f = 100 MHz	60	–	MHz

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; with cooling fin, mountable to heatsink, 1 mounting hole; 3 leads (in-line) **SOT128B**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	c_1	D	E	E_1	e	e_1	H_E	L	L_1	$L_2^{(1)}$ max	P	P_1	Q	w
mm	4.6 4.4	0.8 0.6	0.65 0.5	0.56 0.46	8.6 8.4	10.1 9.9	10.4 10.0	5.08	2.54	24.2 23.8	13.3 12.2	2.4 2.0	2.5	3.8 3.6	3.9 3.7	1.7 1.5	0.25

Note

1. Plastic flash allowed within this zone

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT128B		TO-202				97-02-28

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.

NOTES

NOTES

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