PNP high-voltage transistors | BF870; BF872

FEATURES

- Low feedback capacitance.

APPLICATIONS

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

DESCRIPTION

PNP transistors in a TO-202 plastic package.
NPN complements: BF869 and BF871.

PINNING

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

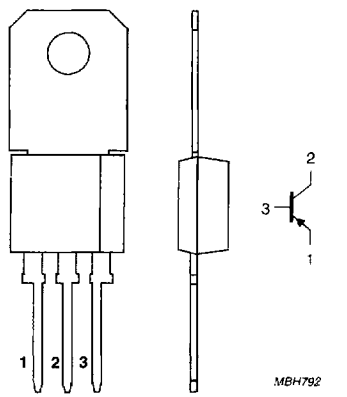

Fig.1 Simplified outline (TO-202) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	BF870		–	–250	V
	BF872		–	–300	V
V_{CEO}	collector-emitter voltage	open base			
	BF870		–	–250	V
	BF872		–	–300	V
I_{CM}	peak collector current		–	–100	mA
P_{tot}	total power dissipation	$T_{mb} \leq 25$ °C	–	5	W
h_{FE}	DC current gain	$I_C = -25$ mA; $V_{CE} = -20$ V; $T_j = 25$ °C	50	–	
C_{re}	feedback capacitance	$I_C = i_c = 0$; $V_{CE} = -30$ V; f = 1MHz	–	2.2	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			
	BF870		–	–250	V
	BF872		–	–300	V
V_{CEO}	collector-emitter voltage	open base			
	BF870		–	–250	V
	BF872		–	–300	V
V_{EBO}	emitter-base voltage	open collector	–	–5	V
I_C	collector current (DC)		–	–50	nA
I_{CM}	peak collector current		–	–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 = 1MHz	–	2.2	pF
f_T	transition frequency	$I_C = -10$ mA; $V_{CE} = -10$ V; f = 100 MHz	60	–	MHz