NPN high-voltage transistors BF458; BF459

FEATURES

- Low current (max. 100 mA)
- High voltage (max. 300 V).

APPLICATIONS

- Intended for video output stages in black-and-white and in colour television receivers.

DESCRIPTION

NPN transistors in a TO-126; SOT32 plastic package.

PINNING

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

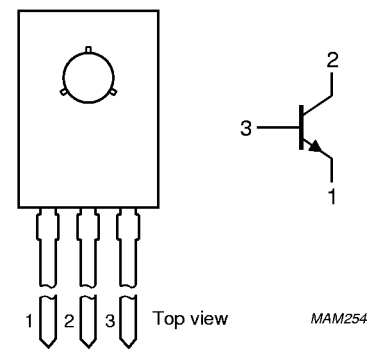


Fig.1 Simplified outline (TO-126; SOT32) and symbol.

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			
	BF458		–	250	V
	BF459		–	300	V
V_{CEO}	collector-emitter voltage	open base			
	BF458		–	250	V
	BF459		–	300	V
V_{EBO}	emitter-base voltage	open collector	–	5	V
I_C	collector current (DC)		–	100	mA
I_{CM}	peak collector current		–	300	mA
I_{BM}	peak base current		–	100	mA
P_{tot}	total power dissipation	$T_{mb} \leq 90$ °C	–	6	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	104	K/W
$R_{th\ j\text{-}mb}$	thermal resistance from junction to mounting base	10	K/W

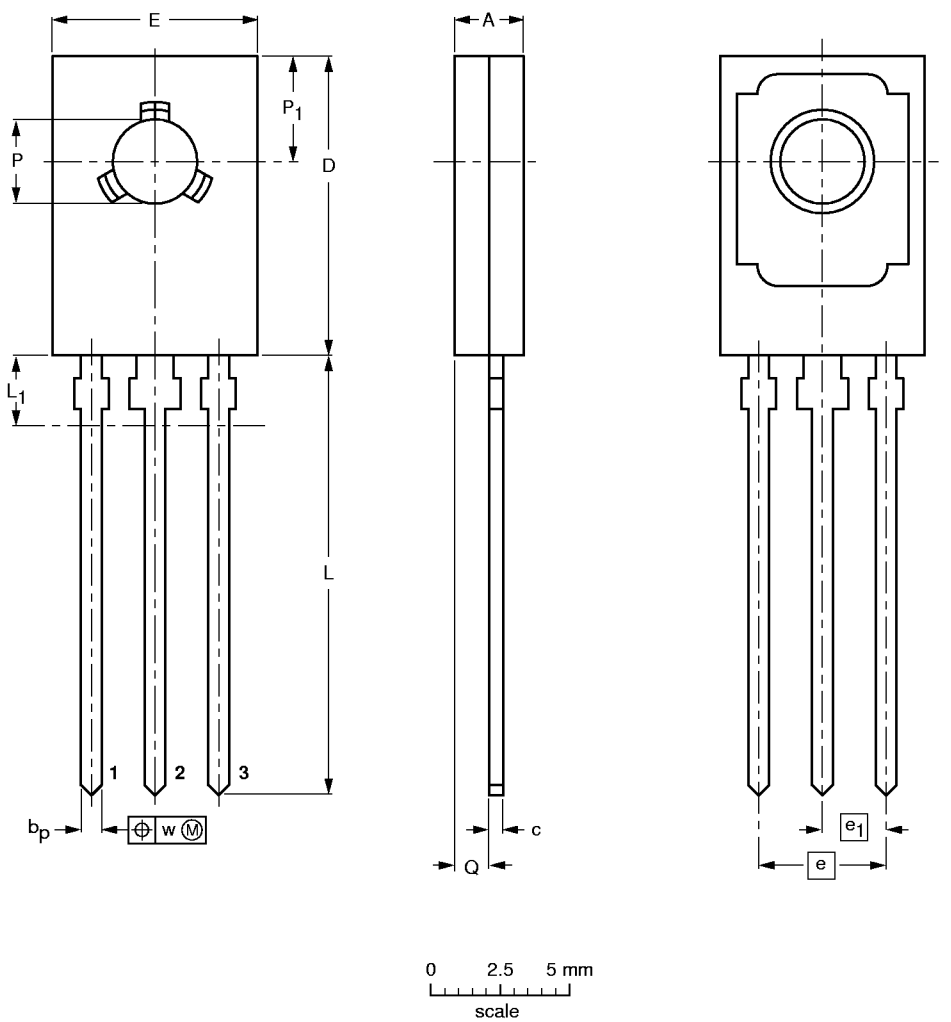
CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current BF458	I_E = 0; V_{CB} = 200 V	–	–	50	nA
		I_E = 0; V_{CB} = 200 V; T_j = 150 °C	–	–	5	µA
I_{CBO}	collector cut-off current BF459	I_E = 0; V_{CB} = 250 V	–	–	50	nA
		I_E = 0; V_{CB} = 250 V; T_j = 150 °C	–	–	5	µA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = 5 V	–	–	100	nA
h_{FE}	DC current gain	I_C = 30 mA; V_{CE} = 10 V	26	–	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = 30 mA; I_B = 6 mA	–	–	1	V
C_c	collector capacitance	$I_E = i_e$ = 0; V_{CB} = 30 V; f = 1 MHz	–	–	4.5	pF
C_{re}	feedback capacitance	$I_C = i_c$ = 0; V_{CE} = 30 V; f = 1 MHz	–	–	3.5	pF
f_T	transition frequency	I_C = 15 mA; V_{CE} = 10 V; f = 100 MHz	–	90	–	MHz

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; mountable to heatsink, 1 mounting hole; 3 leads SOT32



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	e	e_1	L	L_1(1) max	Q	P	P_1	w
mm	2.7 2.3	0.88 0.65	0.60 0.45	11.1 10.5	7.8 7.2	4.58	2.29	16.5 15.3	2.54	1.5 0.9	3.2 3.0	3.9 3.6	0.254

Note

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT32		TO-126				97-03-04