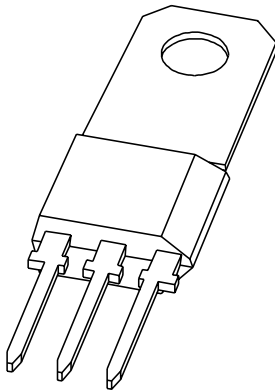


# DATA SHEET



## **BD830** PNP power transistor

Product specification  
Supersedes data of 1998 May 29

1999 Apr 21

# PNP power transistor

**BD830**

### FEATURES

- High current (max. 1 A)
- Low voltage (max. 80 V).

### APPLICATIONS

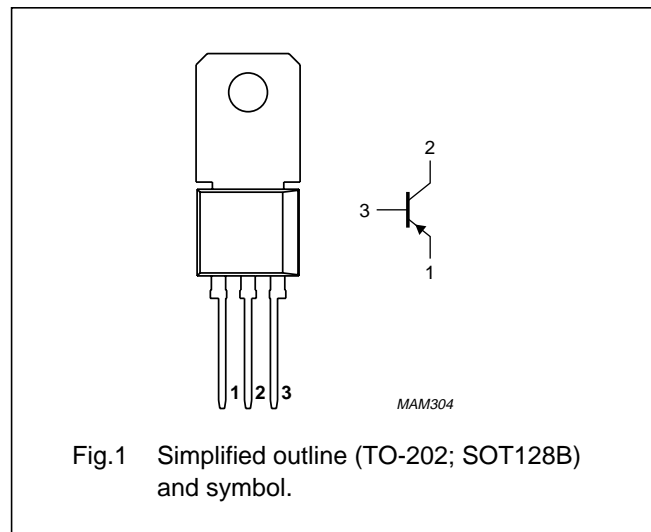
- General purpose
- Driver stages in hi-fi amplifiers and television circuits.

### DESCRIPTION

PNP power transistor in a TO-202; SOT128B plastic package. NPN complement: BD829.

### PINNING

PIN	DESCRIPTION
1	emitter
2	collector, connected to metal part of mounting surface
3	base



### 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	–	–100	V
$V_{CEO}$	collector-emitter voltage	open base	–	–80	V
$V_{EBO}$	emitter-base voltage	open collector	–	–5	V
$I_C$	collector current (DC)		–	–1	A
$I_{CM}$	peak collector current		–	–1.5	A
$I_{BM}$	peak base current		–	–500	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$	–	2	W
		$T_{mb} \leq 50\text{ }^\circ\text{C}$	–	8	W
$T_{stg}$	storage temperature		–65	+150	$^\circ\text{C}$
$T_j$	junction temperature		–	150	$^\circ\text{C}$
$T_{amb}$	operating ambient temperature		–65	+150	$^\circ\text{C}$

PNP power transistor

BD830

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	in free air	62.5	K/W
$R_{th\ j-mb}$	thermal resistance from junction to mounting base		12.5	K/W

**CHARACTERISTICS**

$T_j = 25\text{ }^\circ\text{C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -30\text{ V}$	–	–	–100	nA
		$I_E = 0; V_{CB} = -30\text{ V}; T_j = 125\text{ }^\circ\text{C}$	–	–	–10	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–	–100	nA
$h_{FE}$	DC current gain	$V_{CE} = -2\text{ V}$ ; see Fig.2				
		$I_C = -5\text{ mA}$	40	–	–	
		$I_C = -150\text{ mA}$	63	–	250	
		$I_C = -500\text{ mA}$	25	–	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -500\text{ mA}; I_B = -50\text{ mA}$	–	–	–500	mV
$V_{BE}$	base-emitter voltage	$I_C = -500\text{ mA}; V_{CE} = -2\text{ V}$	–	–	–1	V
$f_T$	transition frequency	$I_C = -50\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	–	75	–	MHz

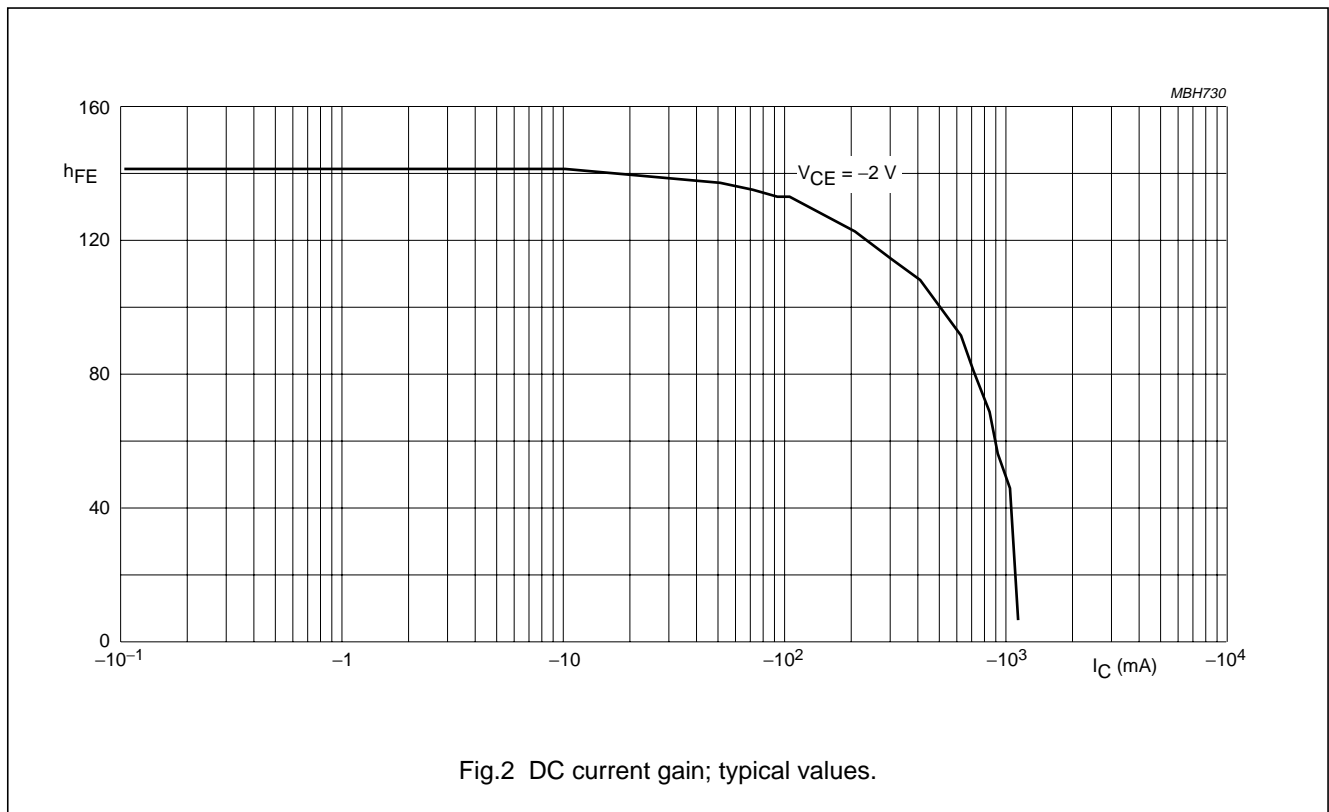


Fig.2 DC current gain; typical values.

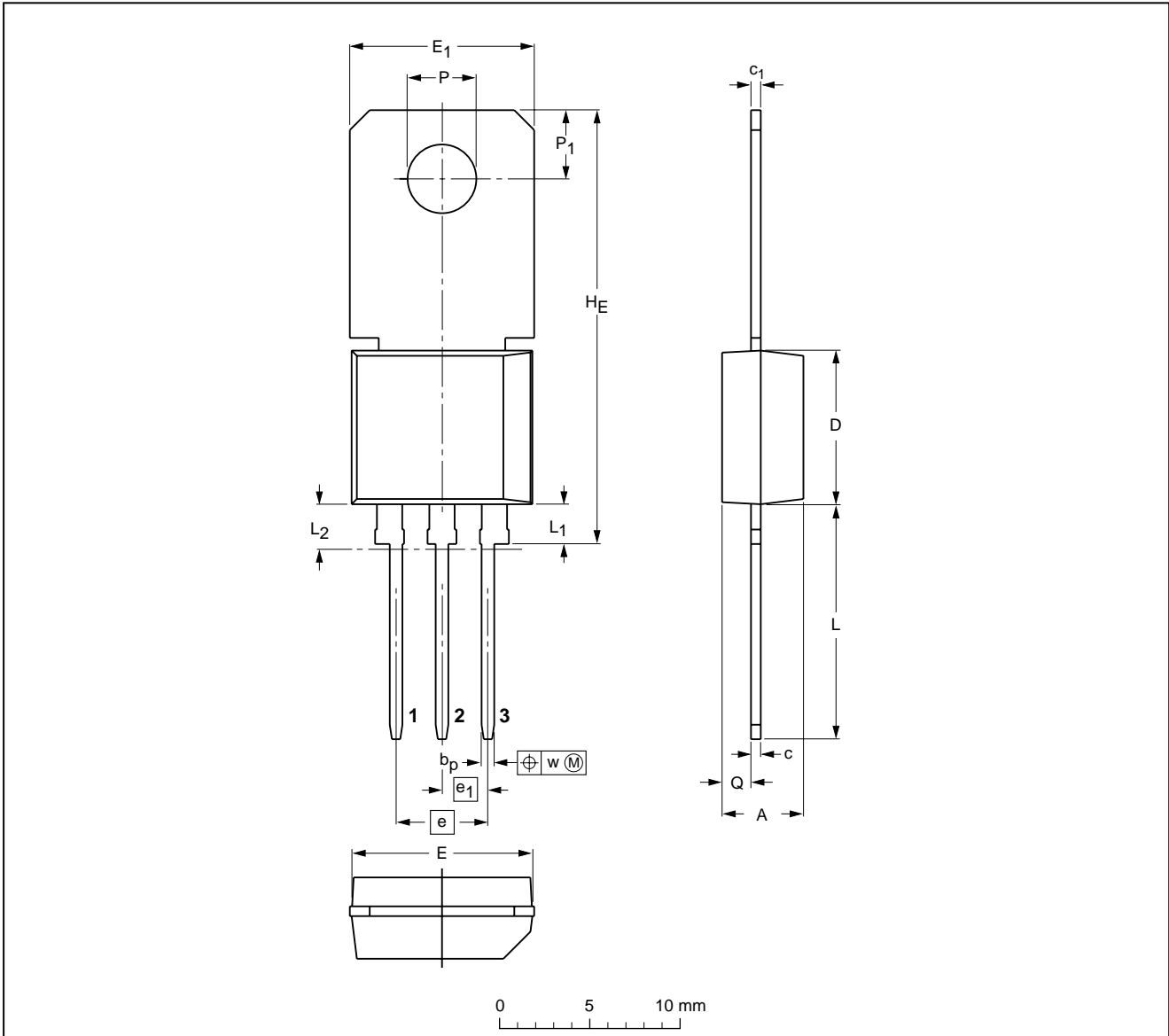
PNP power transistor

BD830

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 <sub>p</sub>	c	c <sub>1</sub>	D	E	E <sub>1</sub>	e	e <sub>1</sub>	H <sub>E</sub>	L	L <sub>1</sub>	L <sub>2</sub> <sup>(1)</sup> max	P	P <sub>1</sub>	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

## PNP power transistor

BD830

**DEFINITIONS**

<b>Data Sheet Status</b>	
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.
<b>Limiting values</b>	
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.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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PNP power transistor

BD830

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**NOTES**

PNP power transistor

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**NOTES**

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