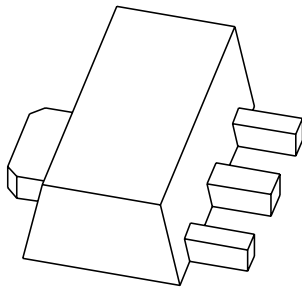


DATA SHEET



BCX51; BCX52; BCX53 PNP medium power transistors

Product specification
Supersedes data of 1999 Apr 19

2001 Oct 10

PNP medium power transistors

BCX51; BCX52; BCX53

FEATURES

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

APPLICATIONS

- Medium power general purposes
- Driver stages of audio amplifiers.

DESCRIPTION

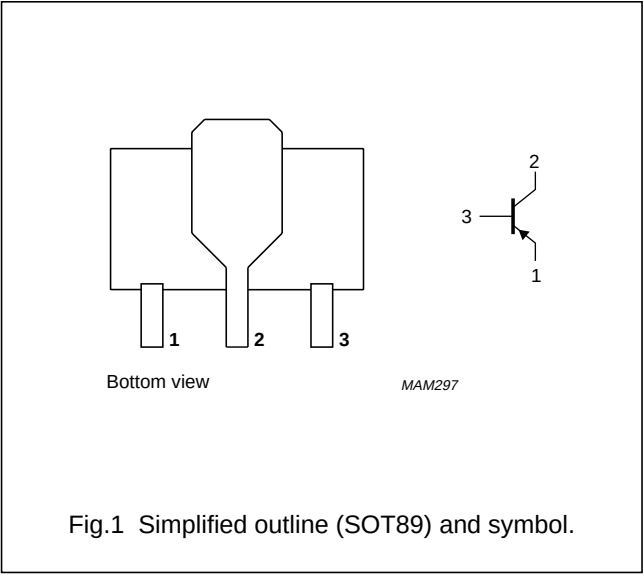
PNP medium power transistor in a SOT89 plastic package. NPN complements: BCX54, BCX55 and BCX56.

MARKING

TYPE NUMBER	MARKING CODE	TYPE NUMBER	MARKING CODE
BCX51	AA	BCX52-16	AM
BCX51-10	AC	BCX53	AH
BCX51-16	AD	BCX53-10	AK
BCX52	AE	BCX53-16	AL
BCX52-10	AG		

PINNING

PIN	DESCRIPTION
1	emitter
2	collector
3	base



PNP medium power transistors

BCX51; BCX52; BCX53

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter			
	BCX51		–	–45	V
	BCX52		–	–60	V
	BCX53		–	–100	V
V _{CEO}	collector-emitter voltage	open base			
	BCX51		–	–45	V
	BCX52		–	–60	V
	BCX53		–	–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		–	–200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	1.3	W
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Note

- Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 6 cm².
For other mounting conditions, see “*Thermal considerations for SOT89 in the General Part of associated Handbook*”.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-a}	thermal resistance from junction to ambient	note 1	94	K/W
R _{th j-s}	thermal resistance from junction to soldering point	note 1	14	K/W

Note

- Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 6 cm².
For other mounting conditions, see “*Thermal considerations for SOT89 in the General Part of associated Handbook*”.

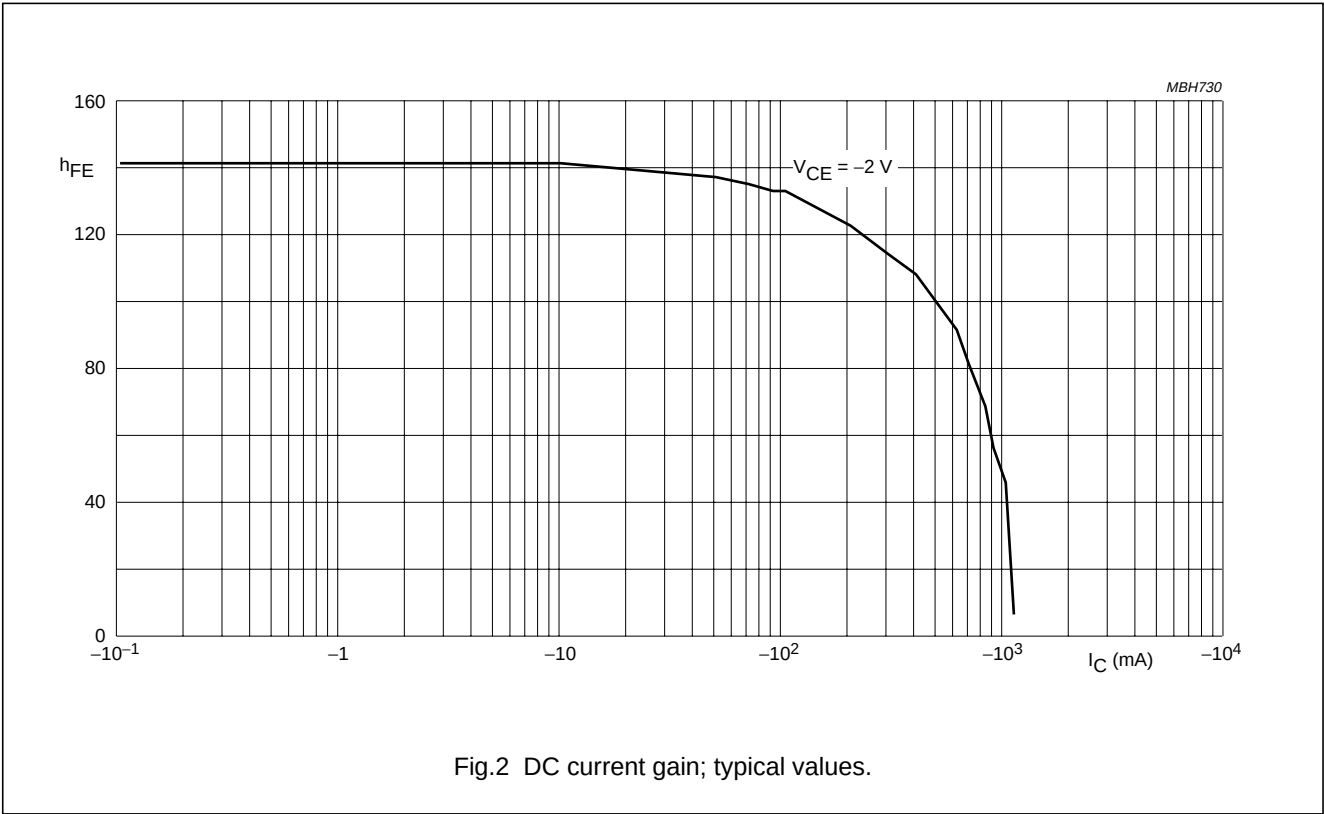
PNP medium power transistors

BCX51; BCX52; BCX53

CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I _{CBO}	collector cut-off current	I _E = 0; V _{CB} = -30 V	–	–	–100	nA
		I _E = 0; V _{CB} = -30 V; T _j = 125 °C	–	–	–10	µA
I _{EBO}	emitter cut-off current	I _C = 0; V _{EB} = -5 V	–	–	–100	nA
h _{FE}	DC current gain	V _{CE} = -2 V; see Fig.2				
		I _C = -5 mA	63	–	–	
		I _C = -150 mA	63	–	250	
		I _C = -500 mA	40	–	–	
	DC current gain	I _C = -150 mA; V _{CE} = -2 V; see Fig.2				
	BCX51-10; BCX52-10; BCX53-10		63	–	160	
	BCX51-16; BCX52-16; BCX53-16		100	–	250	
V _{CEsat}	collector-emitter saturation voltage	I _C = -500 mA; I _B = -50 mA	–	–	–500	mV
V _{BE}	base-emitter voltage	I _C = -500 mA; V _{CE} = -2 V	–	–	–1	V
f _T	transition frequency	I _C = -10 mA; V _{CE} = -5 V; f = 100 MHz	–	50	–	MHz



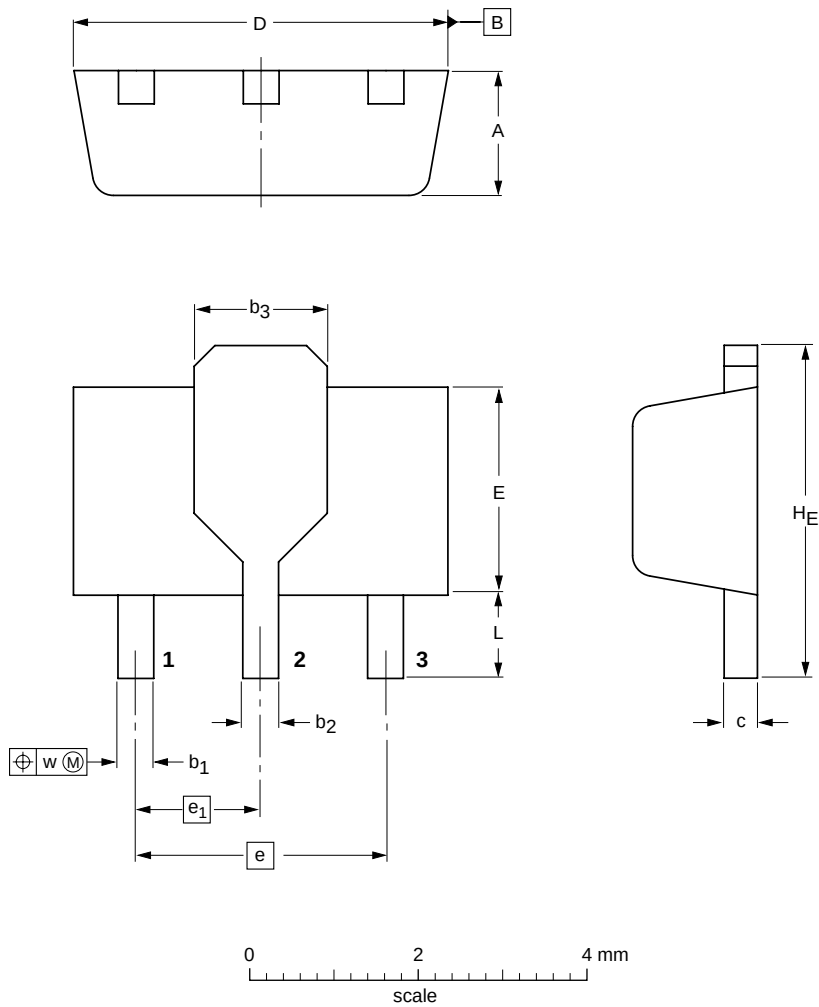
PNP medium power transistors

BCX51; BCX52; BCX53

PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 3 leads

SOT89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b ₁	b ₂	b ₃	c	D	E	e	e ₁	H _E	L min.	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.37	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	0.8	0.13

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT89		TO-243	SC-62			97-02-28 99-09-13

PNP medium power transistors

BCX51; BCX52; BCX53

DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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PNP medium power transistors

BCX51; BCX52; BCX53

NOTES

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