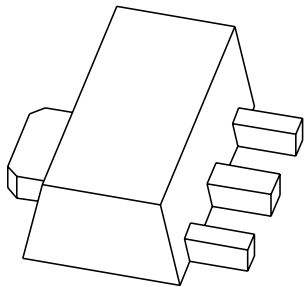


DATA SHEET



BCV28; BCV48 PNP Darlington transistors

Product specification
Supersedes data of 1997 Apr 21

1999 Apr 08

PNP Darlington transistors

BCV28; BCV48

FEATURES

- Very high DC current gain (min. 10000)
- High current (max. 500 mA)
- Low voltage (max. 60 V).

APPLICATIONS

- Where very high amplification is required.

DESCRIPTION

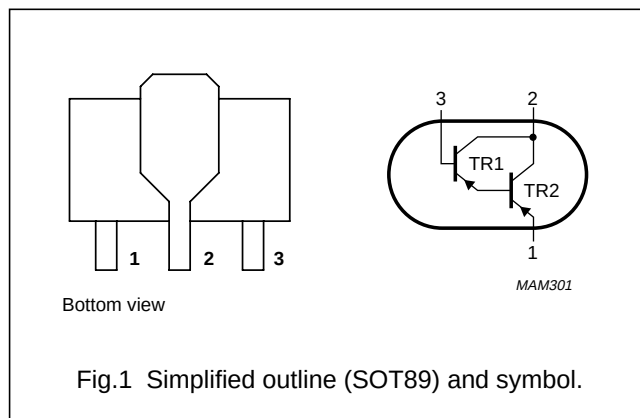
PNP Darlington transistor in a SOT89 plastic package.
NPN complements: BCV29 and BCV49.

MARKING

TYPE NUMBER	MARKING CODE
BCV28	ED
BCV48	EE

PINNING

PIN	DESCRIPTION
1	emitter
2	collector
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			
	BCV28		—	–40	V
	BCV48		—	–80	V
V_{CES}	collector-emitter voltage	$V_{BE} = 0$			
	BCV28		—	–30	V
	BCV48		—	–60	V
V_{EBO}	emitter-base voltage	open collector	—	–10	V
I_C	collector current (DC)		—	–500	mA
I_{CM}	peak collector current		—	–800	mA
I_B	base current (DC)		—	–100	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ °C}$; 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

1. 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 Darlington transistors

BCV28; BCV48

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	96	K/W
$R_{th\ j-s}$	thermal resistance from junction to soldering point		16	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".

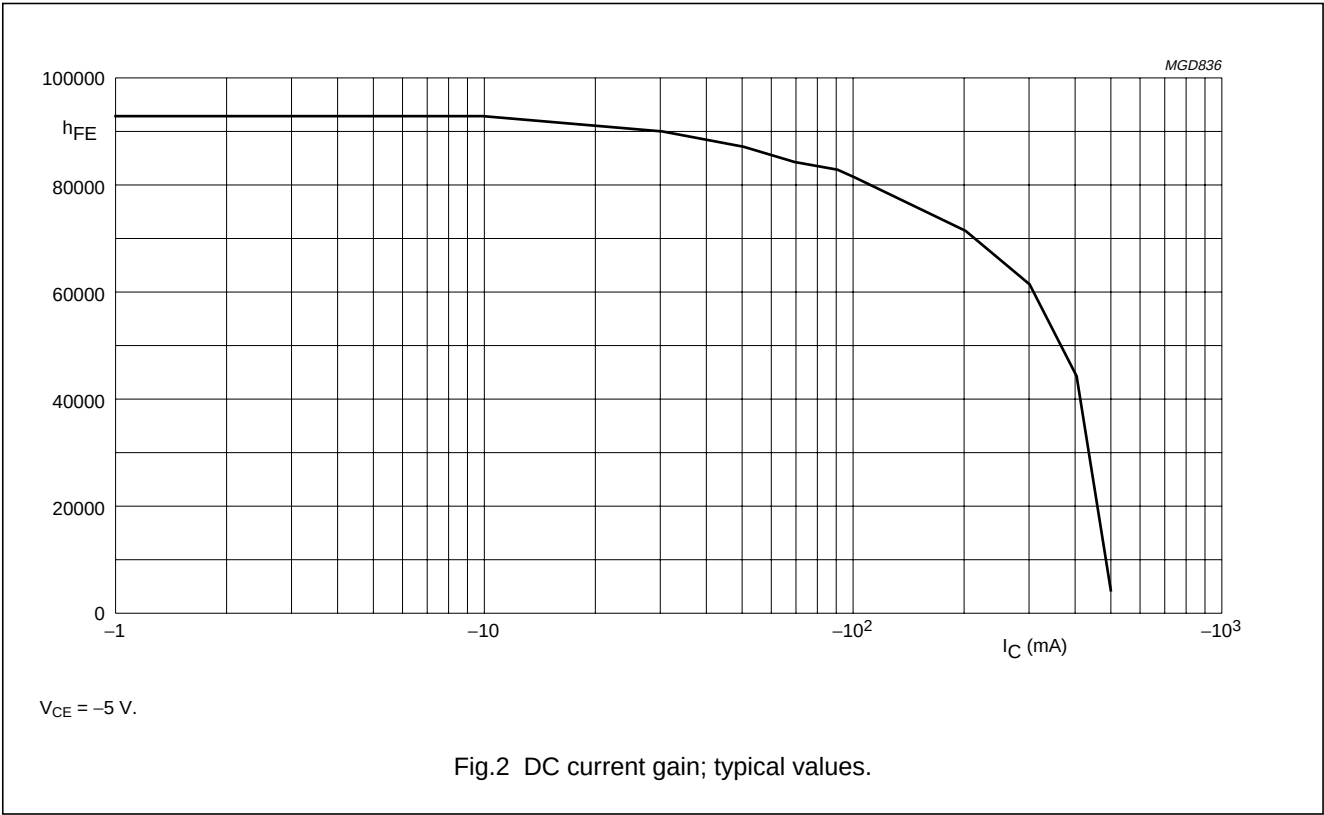
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current					
	BCV28	$I_E = 0; V_{CB} = -30\text{ V}$	–	–	–100	nA
	BCV48	$I_E = 0; V_{CB} = -60\text{ V}$	–	–	–100	nA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{BE} = -10\text{ V}$	–	–	–100	nA
h_{FE}	DC current gain	$I_C = -1\text{ mA}; V_{CE} = -5\text{ V}; \text{ see Fig.2}$				
	BCV28		4000	–	–	
	BCV48		2000	–	–	
	DC current gain	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; \text{ see Fig.2}$				
	BCV28		10000	–	–	
	BCV48		4000	–	–	
	DC current gain	$I_C = -100\text{ mA}; V_{CE} = -5\text{ V}; \text{ see Fig.2}$				
	BCV28		20000	–	–	
	BCV48		10000	–	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -0.1\text{ mA}$	–	–	–1	V
	base-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -0.1\text{ mA}$	–	–	–1.5	V
V_{BEon}	base-emitter on-state voltage	$I_C = -10\text{ mA}; I_B = -5\text{ mA}$	–	–	–1.4	V
f_T	transition frequency	$I_C = -30\text{ mA}; V_{CE} = -5\text{ V};$ $f = 100\text{ MHz}$	–	220	–	MHz

PNP Darlington transistors

BCV28; BCV48



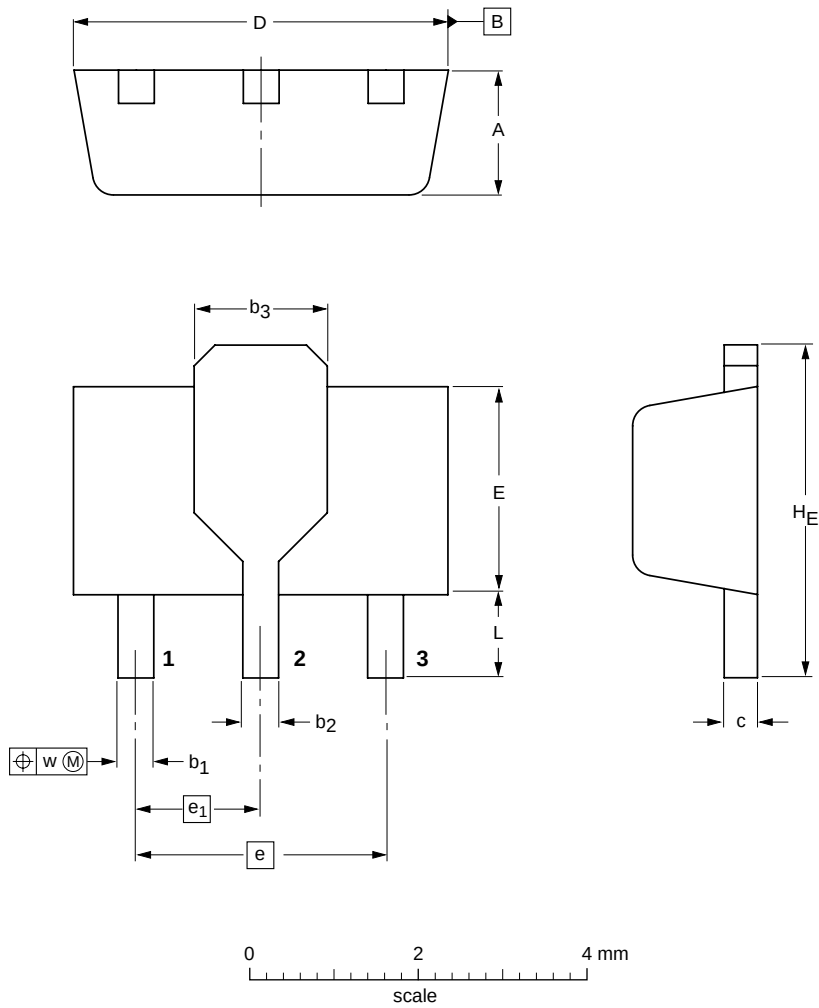
PNP Darlington transistors

BCV28; BCV48

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						97-02-28

PNP Darlington transistors

BCV28; BCV48

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

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PNP Darlington transistors

BCV28; BCV48

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