

DATA SHEET



Datasheet.Live

BCV27; BCV47 NPN Darlington transistors

Product specification
Supersedes data of 1999 Apr 08

2004 Jan 13

NPN Darlington transistors

BCV27; BCV47

FEATURES

- Medium current (max. 500 mA)
- Low voltage (max. 60 V)
- High DC current gain (min. 20000).

APPLICATIONS

- Preamplifier input applications.

DESCRIPTION

NPN Darlington transistor in a SOT23 plastic package.
PNP complements: BCV26 and BCV46.

MARKING

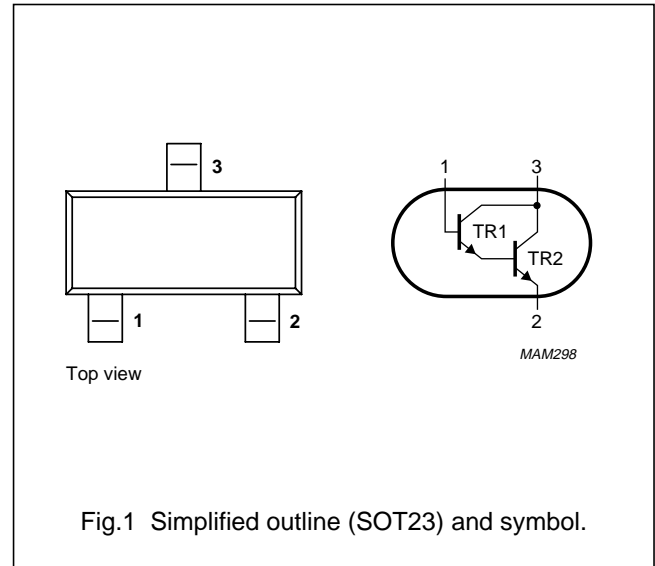
TYPE NUMBER	MARKING CODE ⁽¹⁾
BCV27	FF*
BCV47	FG*

Note

- * = p : Made in Hong Kong.
* = t : Made in Malaysia.
* = W : Made in China.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BCV27	–	plastic surface mounted package; 3 leads	SOT23
BCV47			

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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	–	40	V
	BCV27			80	V
V _{CES}	collector-emitter voltage	open base	–	30	V
	BCV27			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		–	100	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	250	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th(j-a)}	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Transistor mounted on an FR4 printed-circuit board.

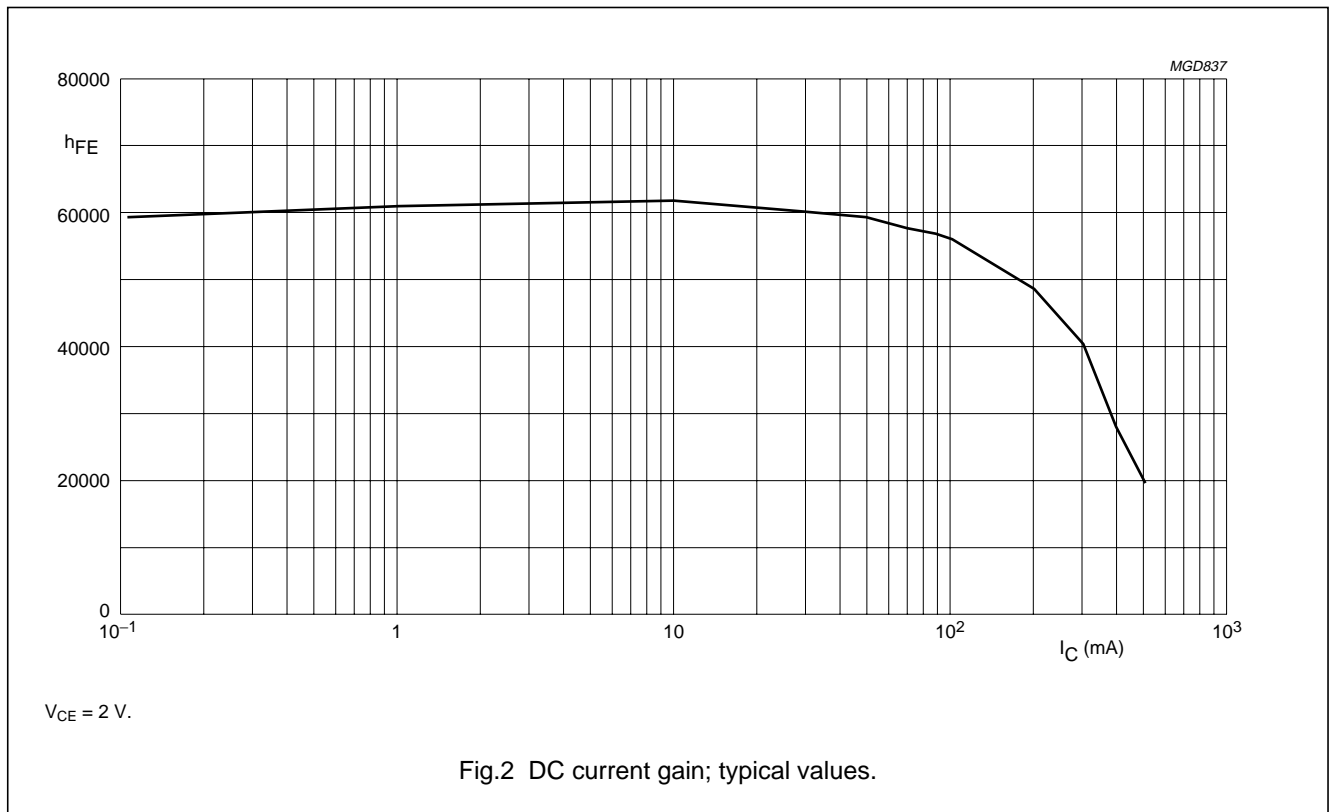
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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT						
I _{CBO}	collector cut-off current											
	BCV27	I _E = 0; V _{CB0} = 30 V	–	–	100	nA						
	BCV47	I _E = 0; V _{CB0} = 60 V	–	–	100	nA						
I _{EBO}	emitter cut-off current	I _E = 0; V _{EB} = 10 V	–	–	100	nA						
h _{FE}	DC current gain	V _{CE} = 5 V; (see Fig.2)										
							BCV27	I _C = 1 mA	4 000	–	–	
								I _C = 10 mA	10 000	–	–	
		I _C = 100 mA	20 000	–	–							
	DC current gain	V _{CE} = 5 V; (see Fig.2)										
								BCV47	I _C = 1 mA	2 000	–	–
								I _C = 10 mA	4 000	–	–	
	I _C = 100 mA	10 000	–	–								
V _{CEsat}	collector-emitter saturation voltage	I _C = 100 mA; I _B = 0.1 mA	–	–	1	V						
V _{BEsat}	base-emitter saturation voltage	I _C = 100 mA; I _B = 0.1 mA	–	–	1.5	V						
V _{BEon}	base-emitter on-state voltage	I _C = 10 mA; V _{CE} = 5 V	–	–	1.4	V						
f _T	transition frequency	I _C = 30 mA; V _{CE} = 5 V; f = 100 MHz	–	220	–	MHz						



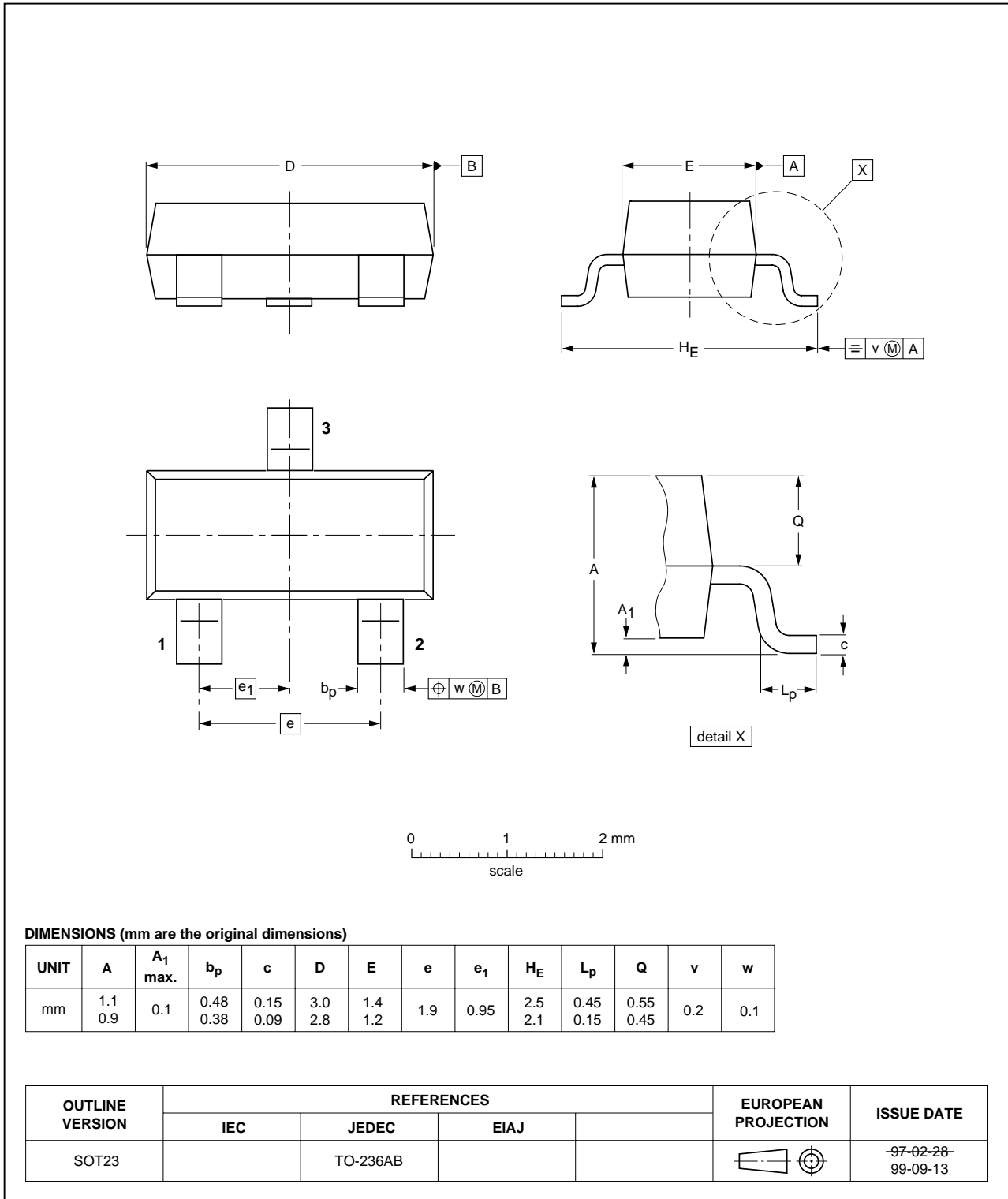
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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



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DATA SHEET STATUS

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