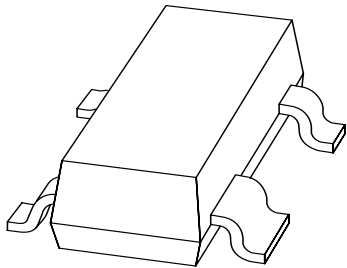


# DATA SHEET



## **BCV62** PNP general purpose double transistor

Product specification  
Supersedes data of 1997 Jun 18

1999 Apr 08

## PNP general purpose double transistor

BCV62

## FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 30 V)
- Matched pair.

## APPLICATIONS

- For use in applications where the working point must be independent of temperature
- Current mirrors.

## DESCRIPTION

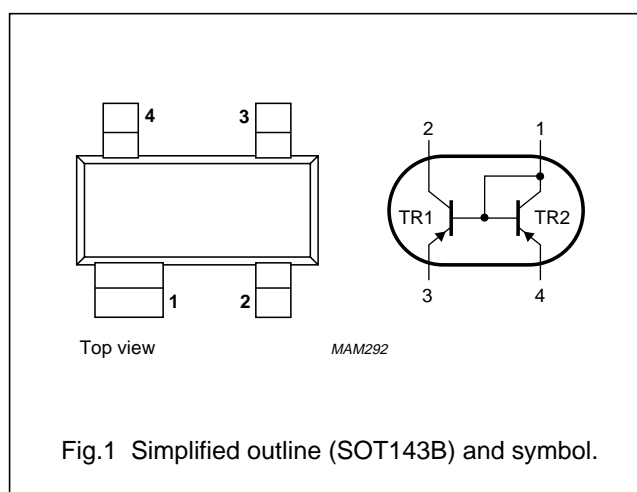
PNP double transistor in a SOT143B plastic package.  
NPN complement: BCV61.

## MARKING

TYPE NUMBER	MARKING CODE	TYPE NUMBER	MARKING CODE
BCV62	3Mp	BCV62B	3Kp
BCV62A	3Jp	BCV62C	3Lp

## PINNING

PIN	DESCRIPTION
1	collector TR2; base TR1 and TR2
2	collector TR1
3	emitter TR1
4	emitter TR2



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage TR1	open emitter	–	–30	V
$V_{CEO}$	collector-emitter voltage TR1	open base	–	–30	V
$V_{EBS}$	emitter-base voltage	$V_{CE} = 0$	–	–6	V
$I_C$	collector current (DC)		–	–100	mA
$I_{CM}$	peak collector current		–	–200	mA
$I_{BM}$	peak base current TR1		–	–200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$ ; 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. Device mounted on an FR4 printed-circuit board.

## PNP general purpose double transistor

## BCV62

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

## Note

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

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
<b>Transistor TR1</b>						
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -30\text{ V}$	–	–	–15	nA
		$I_E = 0; V_{CB} = -30\text{ V}; T_j = 150\text{ °C}$	–	–	–5	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	–	–	–100	nA
$h_{FE}$	DC current gain	$I_C = -100\text{ }\mu\text{A}; V_{CE} = -5\text{ V}$	100	–	–	
		$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$	100	–	800	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}$	–	–75	–300	mV
		$I_C = -100\text{ mA}; I_B = -5\text{ mA}$	–	–250	–650	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -10\text{ mA}; I_B = -0.5\text{ mA}; \text{note 1}$	–	–700	–	mV
		$I_C = -100\text{ mA}; I_B = -5\text{ mA}; \text{note 1}$	–	–850	–	mV
$V_{BE}$	base-emitter voltage	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}; \text{note 1}$	–600	–650	–750	mV
		$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; \text{note 2}$	–	–	–820	mV
$C_c$	collector capacitance	$I_E = I_E = 0; V_{CB} = -10\text{ V}$	–	4.5	–	pF
$f_T$	transition frequency	$I_C = -10\text{ mA}; V_{CE} = -5\text{ V}; f = 100\text{ MHz}$	100	–	–	MHz
F	noise figure	$I_C = -200\text{ }\mu\text{A}; V_{CE} = -5\text{ V}; R_S = 2\text{ k}\Omega;$ $f = 1\text{ kHz}; B = 200\text{ Hz}$	–	–	10	dB
<b>Transistor TR2</b>						
$V_{EBS}$	base-emitter forward voltage	$I_E = 250\text{ mA}; V_{CB} = 0$	–	–	1.5	V
		$I_E = 10\text{ }\mu\text{A}; V_{CB} = 0$	400	–	–	mV
$h_{FE}$	DC current gain	$I_C = -2\text{ mA}; V_{CE} = -5\text{ V}$				
		BCV62A	125	–	250	
		BCV62B	220	–	475	
	BCV62C	420	–	800		

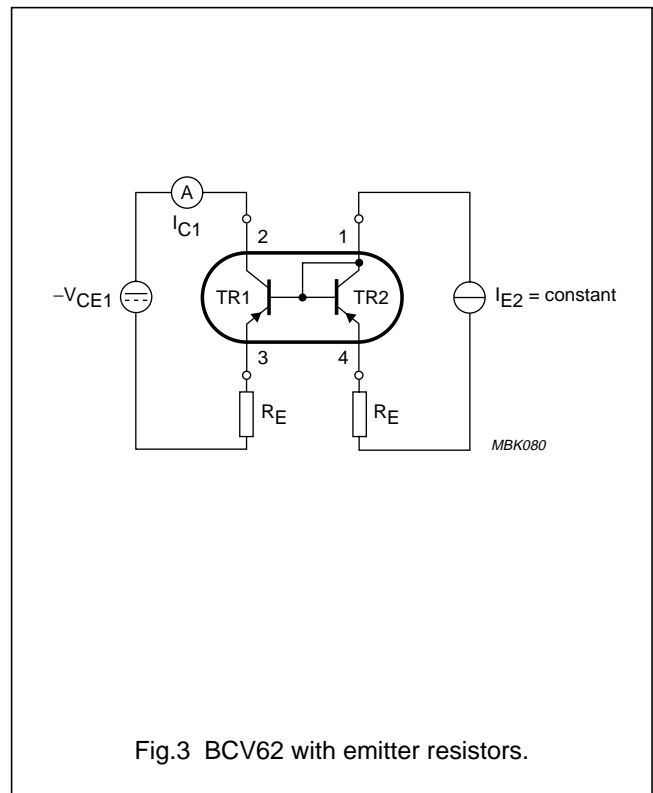
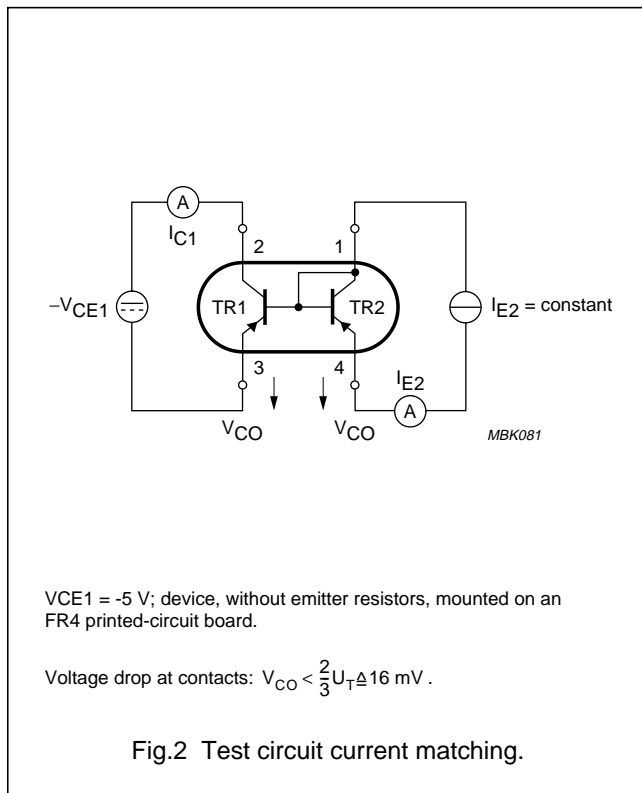
PNP general purpose double transistor

BCV62

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
<b>Transistors TR1 and TR2</b>						
$\frac{I_{C1}}{I_{E2}}$	current matching of transistors TR1 and TR2	$I_{E2} = 0.5 \text{ mA}; V_{CE1} = -5 \text{ V}; T_{\text{amb}} \leq 25 \text{ }^\circ\text{C}$	0.7	–	1.3	
		$I_{E2} = 0.5 \text{ mA}; V_{CE1} = -5 \text{ V}; T_{\text{amb}} \leq 150 \text{ }^\circ\text{C}$	0.7	–	1.3	
$I_{E2}$	emitter current for thermal stability of $-I_{C1}$	$V_{CE1} = -5 \text{ V}; \text{note 3}; (\text{see Fig.2})$	–	–	5	mA

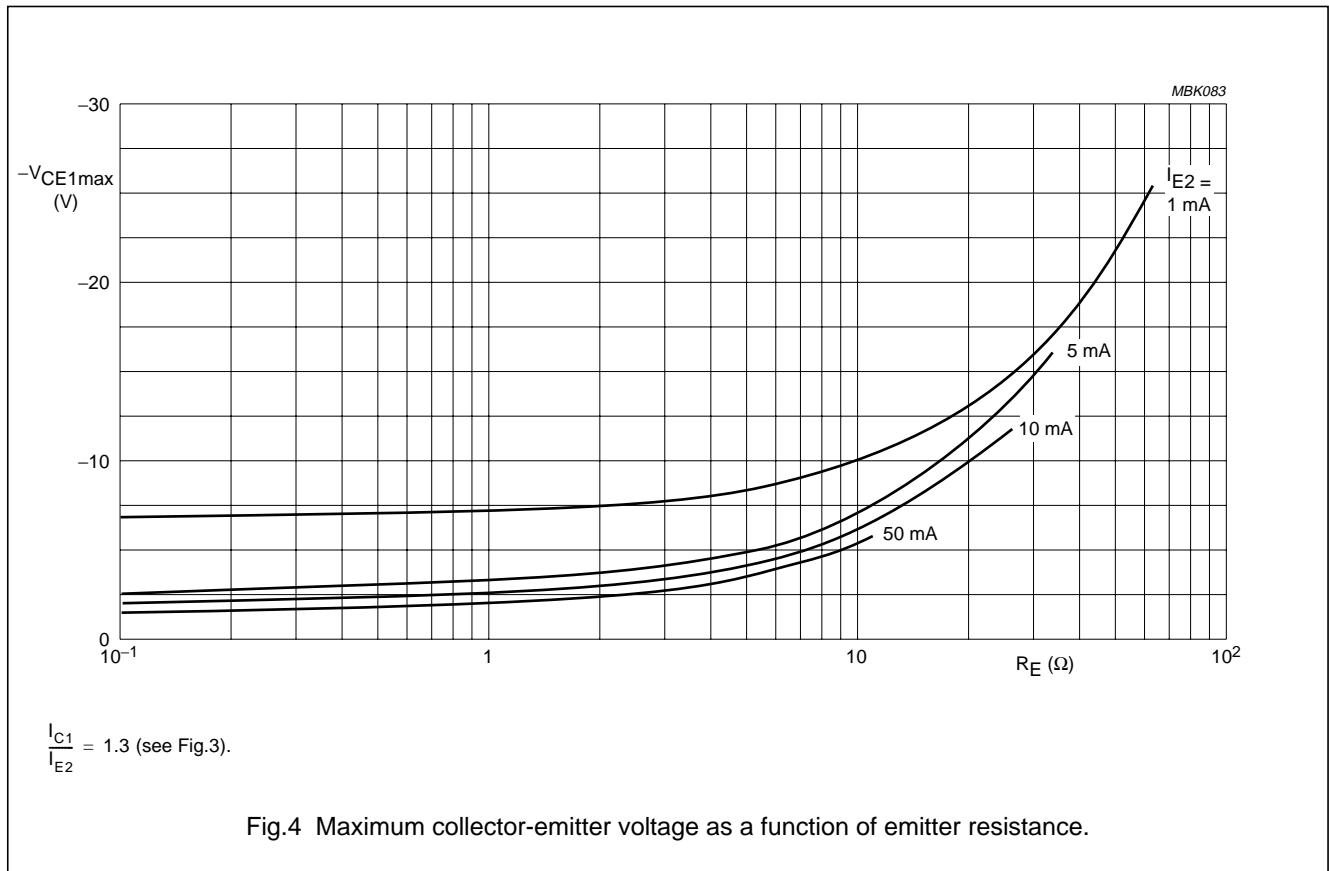
Notes

1. Decreasing  $-1.7 \text{ mV}/^\circ\text{C}$  with increasing temperature.
2. Decreasing  $-2 \text{ mV}/^\circ\text{C}$  with increasing temperature.
3. Device, without emitter resistors, mounted on an FR4 printed-circuit board.



PNP general purpose double transistor

BCV62



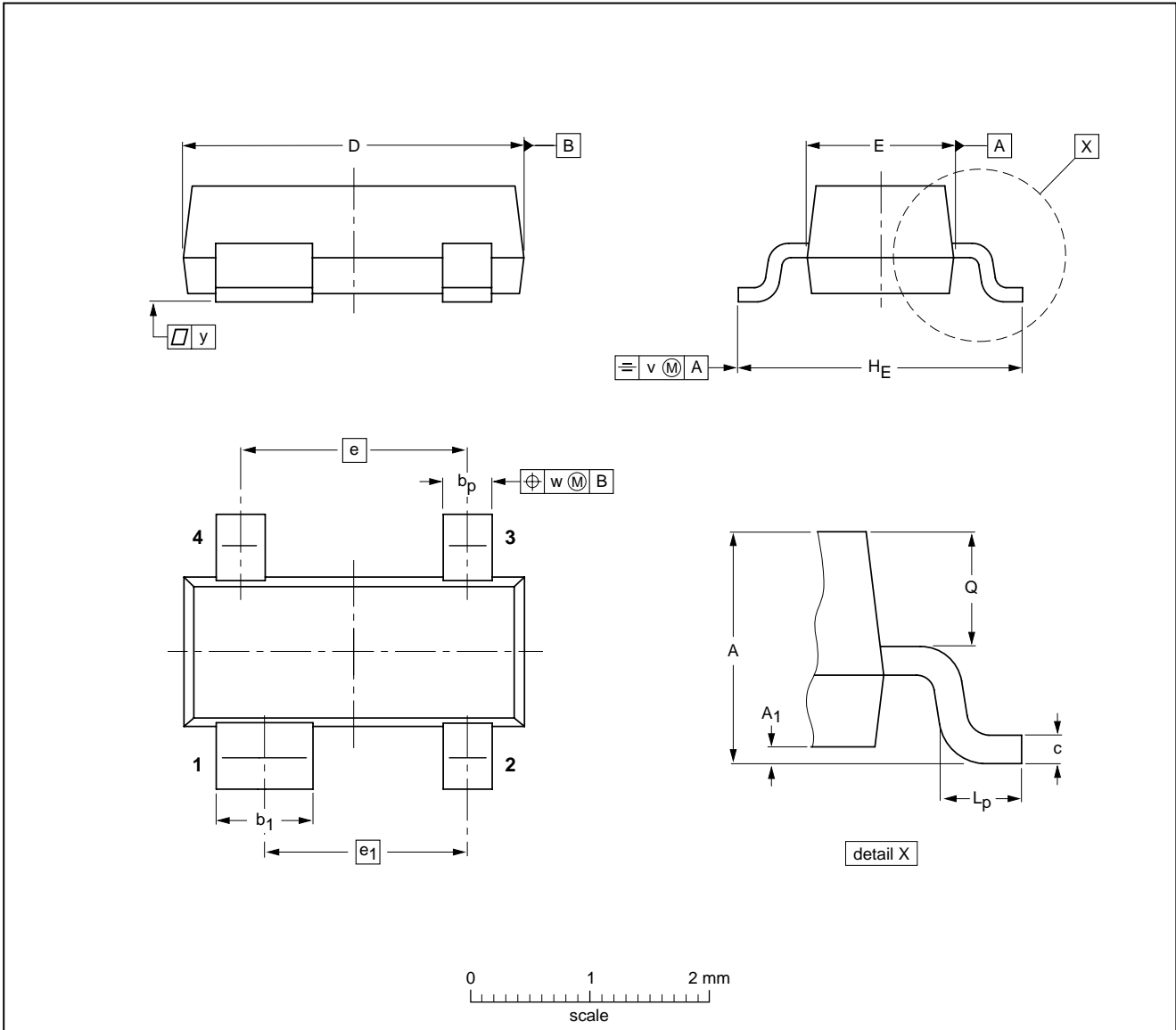
PNP general purpose double transistor

BCV62

PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

SOT143B



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	b <sub>1</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w	y
mm	1.1 0.9	0.1	0.48 0.38	0.88 0.78	0.15 0.09	3.0 2.8	1.4 1.2	1.9	1.7	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT143B						97-02-28

## PNP general purpose double transistor

BCV62

**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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