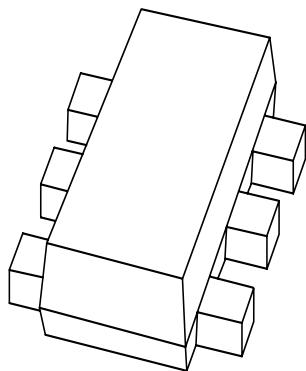


# DATA SHEET



## **BC857BV**

### PNP general purpose double transistor

Product data sheet  
Supersedes data of 2001 Aug 10

2001 Nov 07

**PNP general purpose double transistor****BC857BV****FEATURES**

- 300 mW total power dissipation
- Very small 1.6 mm × 1.2 mm × 0.55 mm ultra thin package
- Excellent coplanarity due to straight leads
- Improved thermal behaviour due to flat leads
- Reduces number of components as replacement of two SC-75/SC-89 packaged BISS transistors
- Reduces required board space
- Reduces pick and place costs.

**APPLICATIONS**

- General purpose switching and amplification.

**DESCRIPTION**

PNP double transistor in a SOT666 plastic package.  
NPN complement: BC847BV.

**MARKING**

TYPE NUMBER	MARKING CODE
BC857BV	3F

**PINNING**

PIN	DESCRIPTION	
1, 4	emitter	TR1; TR2
2, 5	base	TR1; TR2
6, 3	collector	TR1; TR2

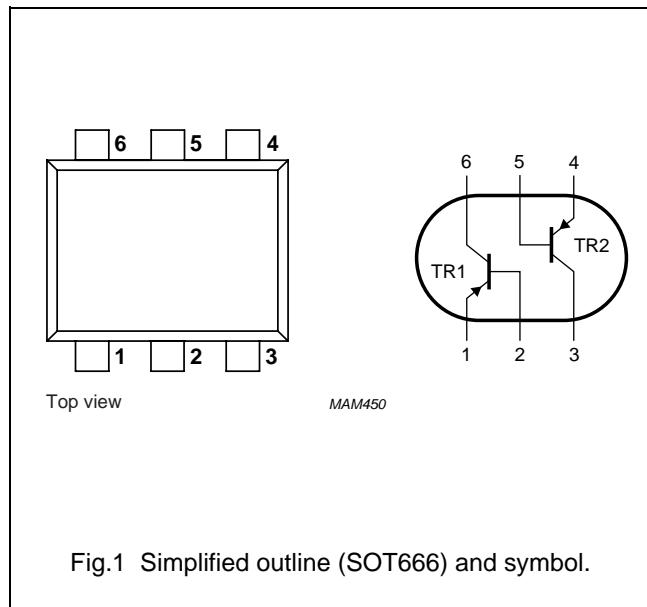


Fig.1 Simplified outline (SOT666) and symbol.

## PNP general purpose double transistor

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**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per transistor</b>					
$V_{CBO}$	collector-base voltage	open emitter	–	–50	V
$V_{CEO}$	collector-emitter voltage	open base	–	–45	V
$V_{EBO}$	emitter-base voltage	open collector	–	–5	V
$I_C$	collector current (DC)		–	–100	mA
$I_{CM}$	peak collector current		–	–200	mA
$I_{BM}$	peak base current		–	–200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25 \text{ }^{\circ}\text{C}$ ; note 1	–	200	mW
$T_{stg}$	storage temperature		–65	+150	$^{\circ}\text{C}$
$T_j$	junction temperature		–	150	$^{\circ}\text{C}$
$T_{amb}$	operating ambient temperature		–65	+150	$^{\circ}\text{C}$
<b>Per device</b>					
$P_{tot}$	total power dissipation	$T_{amb} \leq 25 \text{ }^{\circ}\text{C}$ ; note 1	–	300	mW

**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	notes 1 and 2	416	K/W

**Notes**

1. Transistor mounted on an FR4 printed-circuit board.
2. The only recommended soldering method is reflow soldering.

## PNP general purpose double transistor

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
<b>Per transistor</b>						
$I_{CBO}$	collector-base cut-off current	$I_E = 0; V_{CB} = -30 V$	—	—	-15	nA
		$I_E = 0; V_{CB} = -30 V; T_j = 150^\circ C$	—	—	-5	$\mu A$
$I_{EBO}$	emitter-base cut-off current	$I_C = 0; V_{EB} = -5 V$	—	—	-100	nA
$h_{FE}$	DC current gain	$I_C = -2 mA; V_{CE} = -5 V$	200	—	450	
$V_{BE}$	base-emitter voltage	$I_C = -2 mA; V_{CE} = -5 V$	-600	-655	-750	mV
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -10 mA; I_B = -0.5 mA$	—	—	-100	mV
		$I_C = -100 mA; I_B = -5. mA$ ; note 1	—	—	-400	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -10 mA; I_B = -0.5 mA$	—	-755	—	mV
$C_c$	collector capacitance	$I_E = i_e = 0; V_{CB} = -10 V; f = 1 MHz$	—	—	2.2	pF
$C_e$	emitter capacitance	$I_C = i_c = 0; V_{EB} = -500 mV; f = 1 MHz$	—	10	—	pF
$f_T$	transition frequency	$I_C = -10 mA; V_{CE} = -5 V; f = 100 MHz$	100	—	—	MHz

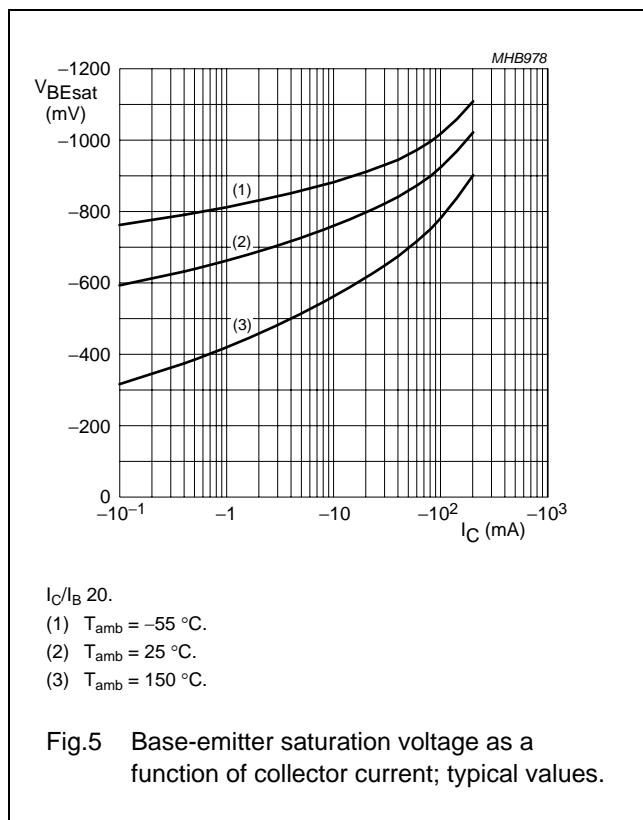
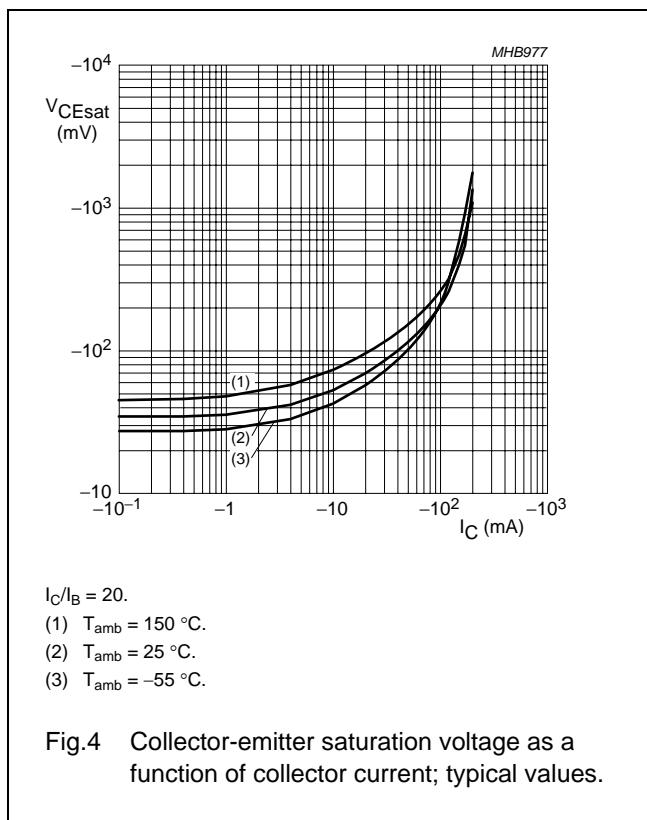
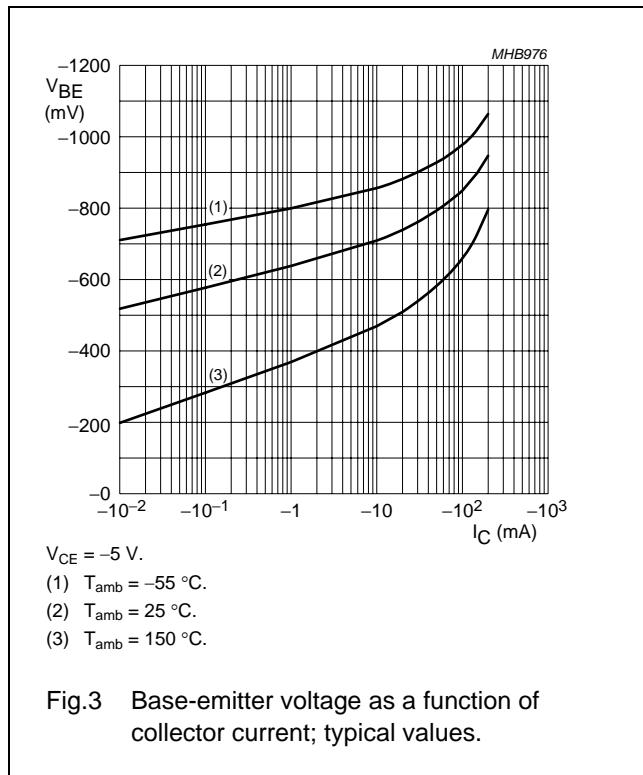
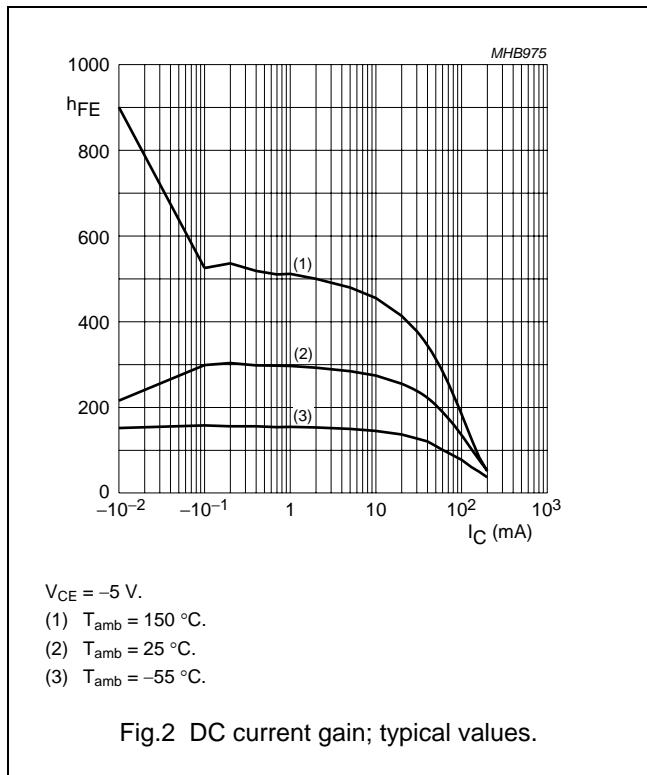
## Note

1. Pulse test:  $t_p \leq 300 \mu s$ ;  $\delta \leq 0.02$ .

## PNP general purpose double transistor

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## Graphical information BC857BV



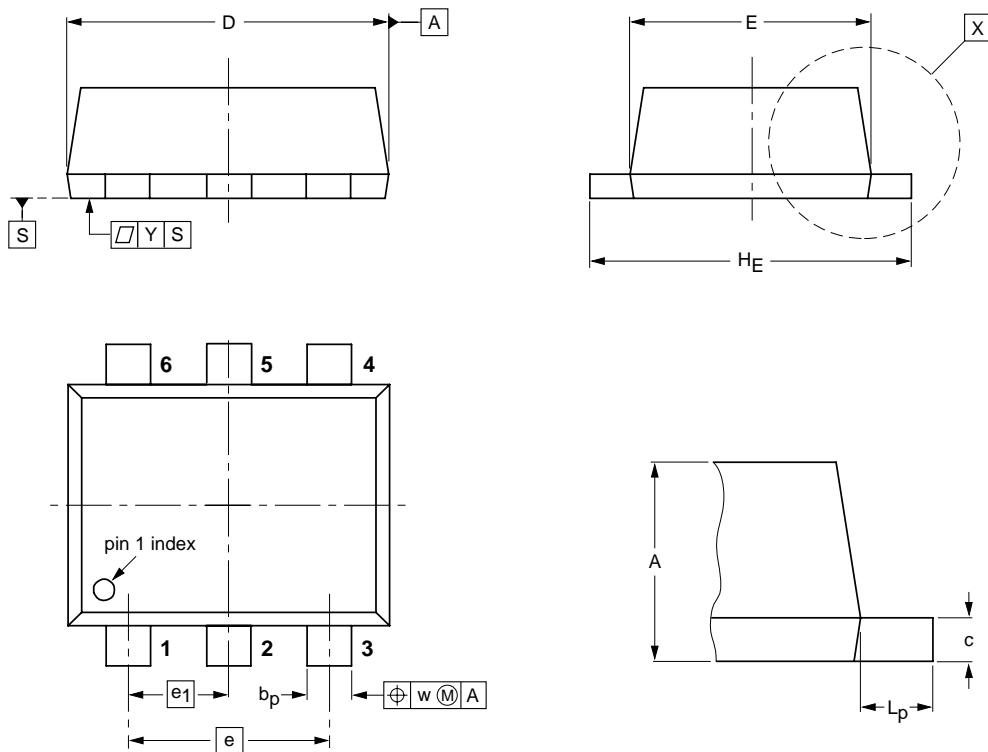
## PNP general purpose double transistor

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## PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



## DIMENSIONS (mm are the original dimensions)

UNIT	A	$b_p$	c	D	E	e	$e_1$	$H_E$	$L_p$	w	y
mm	0.6 0.5	0.27 0.17	0.18 0.08	1.7 1.5	1.3 1.1	1.0	0.5	1.7 1.5	0.3 0.1	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT666						-01-01-04 01-08-27

## PNP general purpose double transistor

BC857BV

## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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