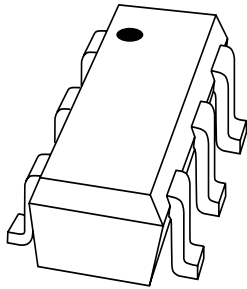


# DATA SHEET



**BC857BS**

PNP general purpose double  
transistor

Product data sheet  
Supersedes data of 1997 Jul 09

1999 Apr 26

# PNP general purpose double transistor

# BC857BS

### FEATURES

- Low collector capacitance
- Low collector-emitter saturation voltage
- Closely matched current gain
- Reduces number of components and boardspace
- No mutual interference between the transistors.

### APPLICATIONS

- General purpose switching and amplification.

### DESCRIPTION

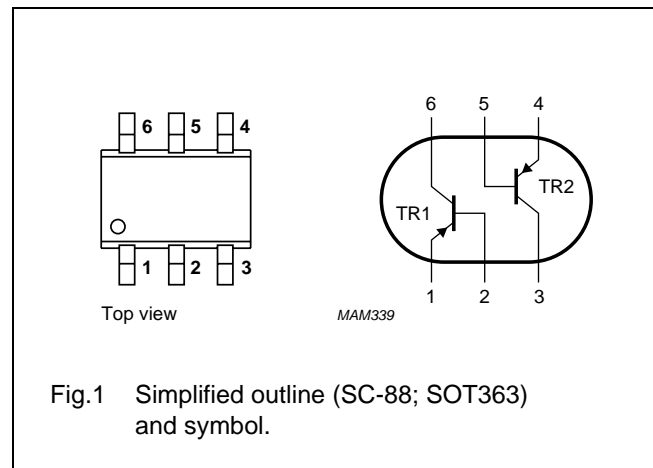
PNP double transistor in an SC-88; SOT363 plastic package. NPN complement: BC847BS.

### MARKING

TYPE NUMBER	MARKING CODE
BC857BS	3Ft

### PINNING

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



### LIMITING VALUES

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

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	$T_{amb} \leq 25\text{ °C}$	–	200	mW
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C
$T_{amb}$	operating ambient temperature		–65	+150	°C
<b>Per device</b>					
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$ ; note 1	–	300	mW

### Note

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

## PNP general purpose double transistor

BC857BS

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
<b>Per device</b>				
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	416	K/W

**Note**

- Device mounted on an FR4 printed-circuit board.

## CHARACTERISTICS

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

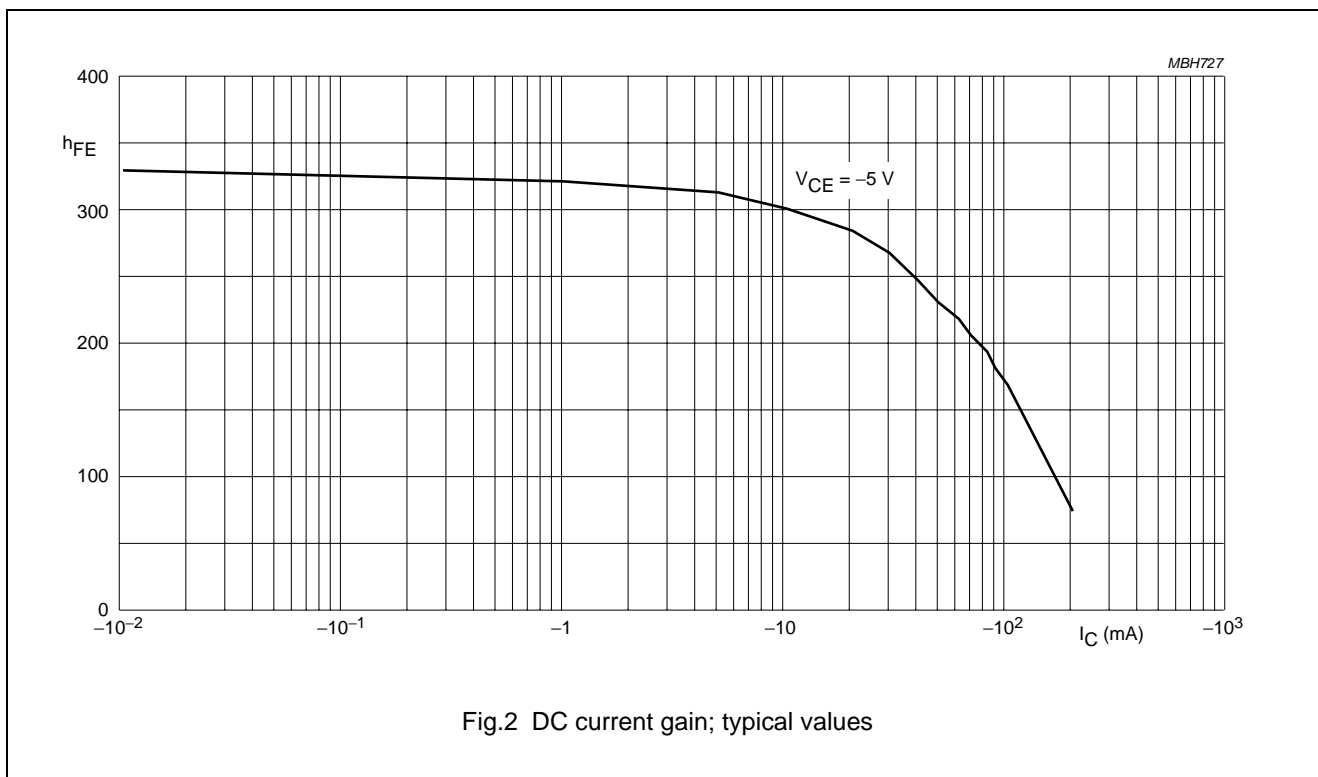
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
<b>Per transistor</b>						
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -30\text{ V}$	-	-	-15	nA
		$I_E = 0; V_{CB} = -30\text{ V}; T_j = 150\text{ °C}$	-	-	-5	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -5\text{ V}$	-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

**Note**

- Pulse test:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .

PNP general purpose double transistor

BC857BS



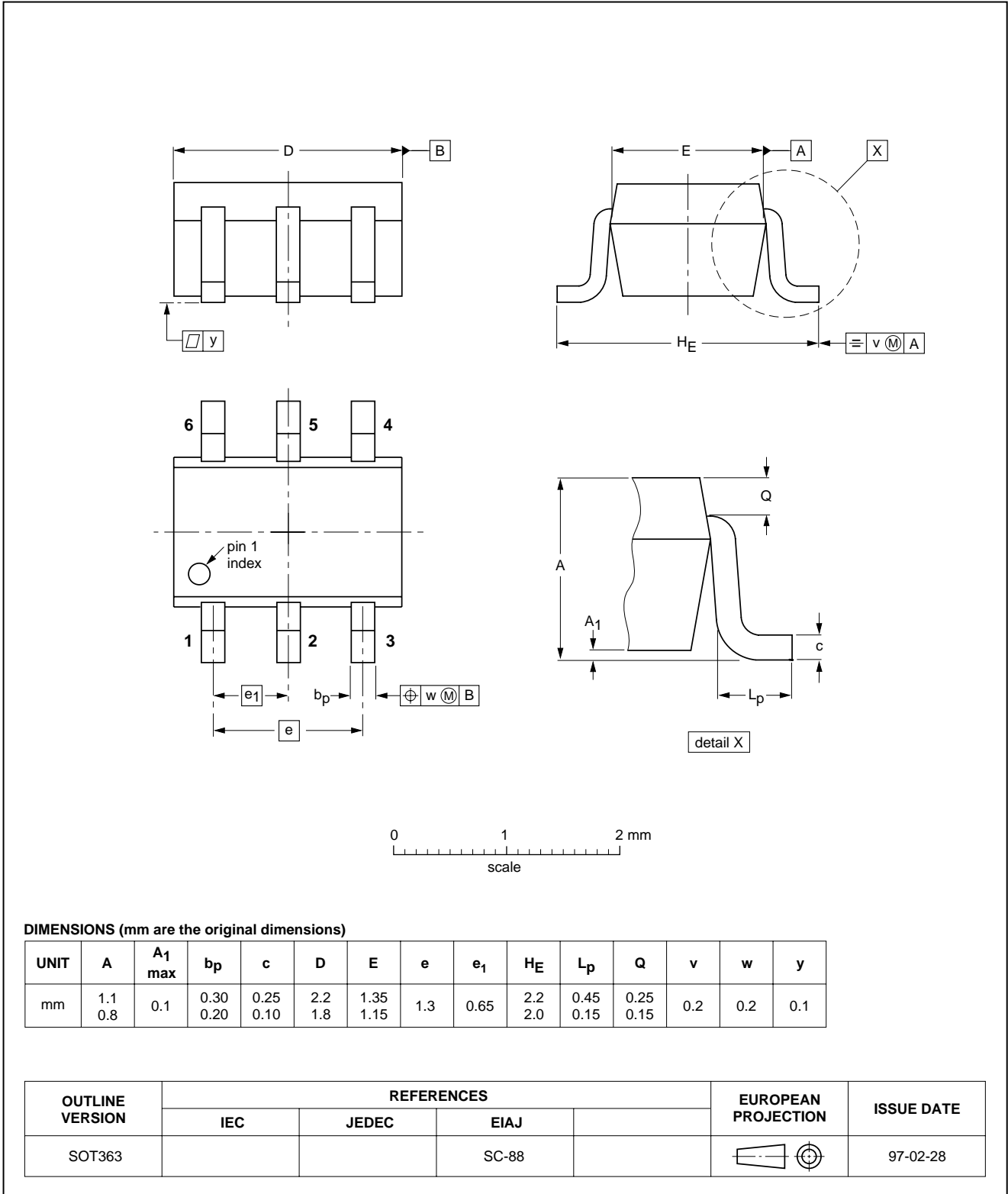
PNP general purpose double transistor

BC857BS

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT363



## PNP general purpose double transistor

BC857BS

## 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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