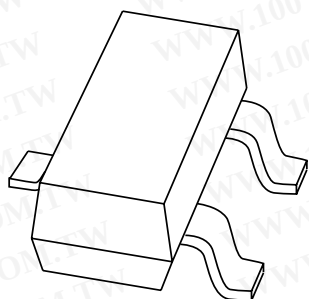


DATA SHEET



勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
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BC817

NPN general purpose transistor

Product specification
Supersedes data of 1997 Mar 12

1999 Jun 01

NPN general purpose transistor

BC817

FEATURES

- High current (max. 500 mA)
- Low voltage (max. 45 V).

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

NPN transistor in a SOT23 plastic package.
PNP complement: BC807.

MARKING

TYPE NUMBER	MARKING CODE ⁽¹⁾	TYPE NUMBER	MARKING CODE ⁽¹⁾
BC817	6D*	BC817-25	6B*
BC817-16	6A*	BC817-40	6C*

Note

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

LIMITING VALUES

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

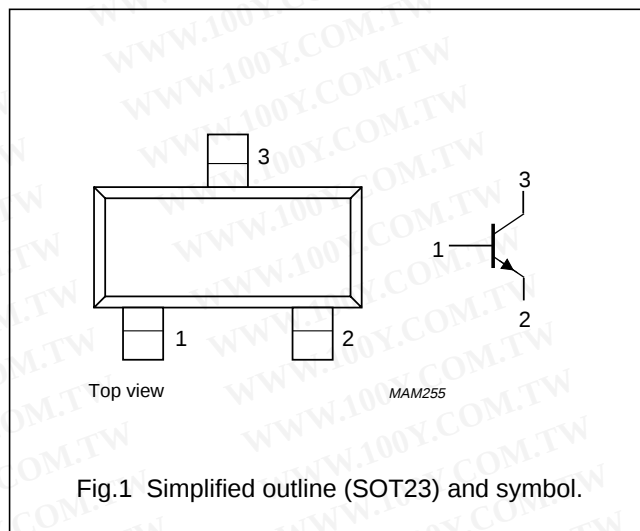
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	50	V
V_{CEO}	collector-emitter voltage	open base; $I_C = 10\text{ mA}$	–	45	V
V_{EBO}	emitter-base voltage	open collector	–	5	V
I_C	collector current (DC)		–	500	mA
I_{CM}	peak collector current		–	1	A
I_{BM}	peak base current		–	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. Transistor mounted on an FR4 printed-circuit board.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



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NPN general purpose transistor

BC817

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.

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = 20\text{ V}$	—	—	100	nA
		$I_E = 0$; $V_{CB} = 20\text{ V}$; $T_j = 150\text{ °C}$	—	—	5	μA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = 5\text{ V}$	—	—	100	nA
h_{FE}	DC current gain	$I_C = 100\text{ mA}$; $V_{CE} = 1\text{ V}$; note 1; see Figs 2, 3 and 4	100	—	600	
	BC817		100	—	250	
	BC817-16		160	—	400	
	BC817-25		250	—	600	
h_{FE}	DC current gain	$I_C = 500\text{ mA}$; $V_{CE} = 1\text{ V}$; note 1	40	—	—	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 500\text{ mA}$; $I_B = 50\text{ mA}$; note 1	—	—	700	mV
V_{BE}	base-emitter voltage	$I_C = 500\text{ mA}$; $V_{CE} = 1\text{ V}$; note 2	—	—	1.2	V
C_c	collector capacitance	$I_E = I_C = 0$; $V_{CB} = 10\text{ V}$; $f = 1\text{ MHz}$;	—	5	—	pF
f_T	transition frequency	$I_C = 10\text{ mA}$; $V_{CE} = 5\text{ V}$; $f = 100\text{ MHz}$;	100	—	—	MHz

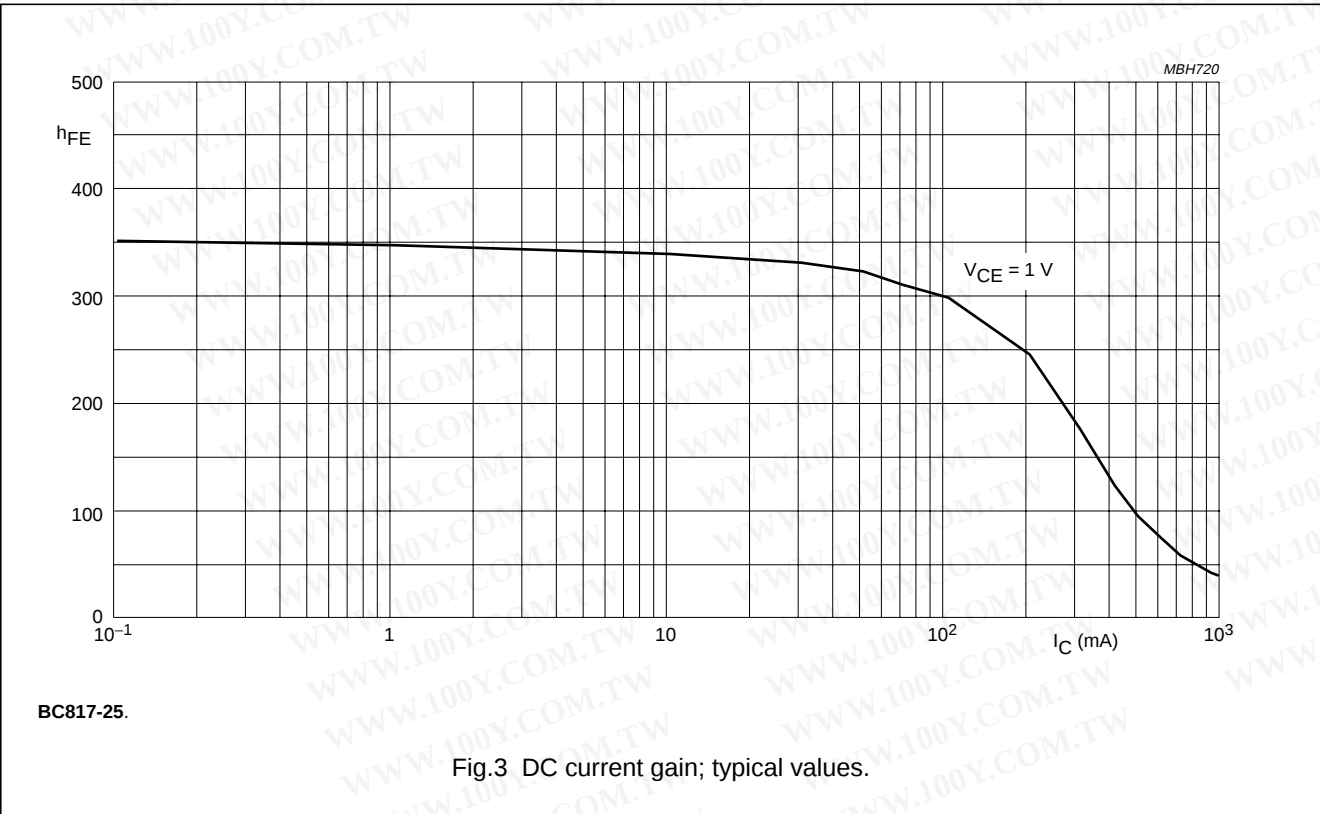
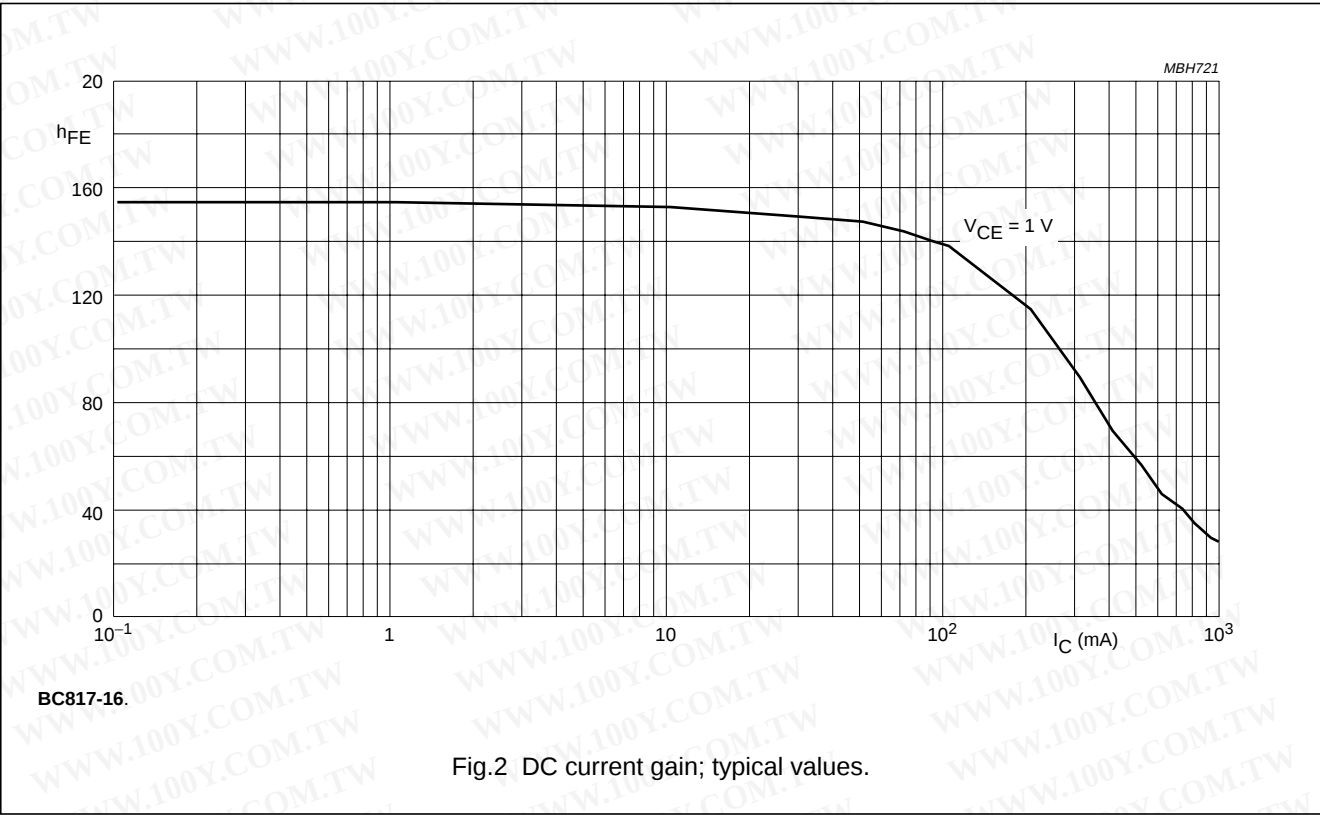
Notes

1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.
2. V_{BE} decreases by approx. 2 mV/K with increasing temperature.

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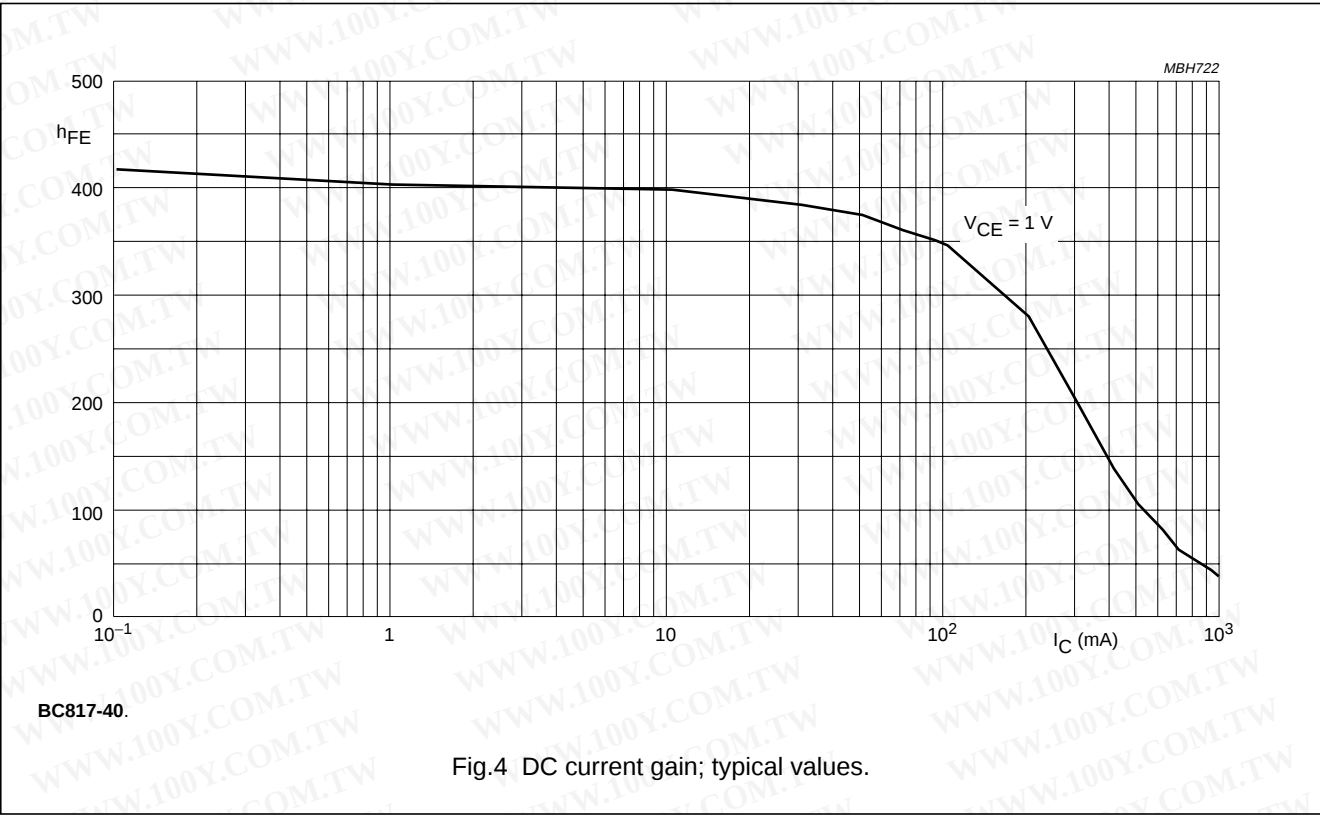
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BC817



NPN general purpose transistor

BC817



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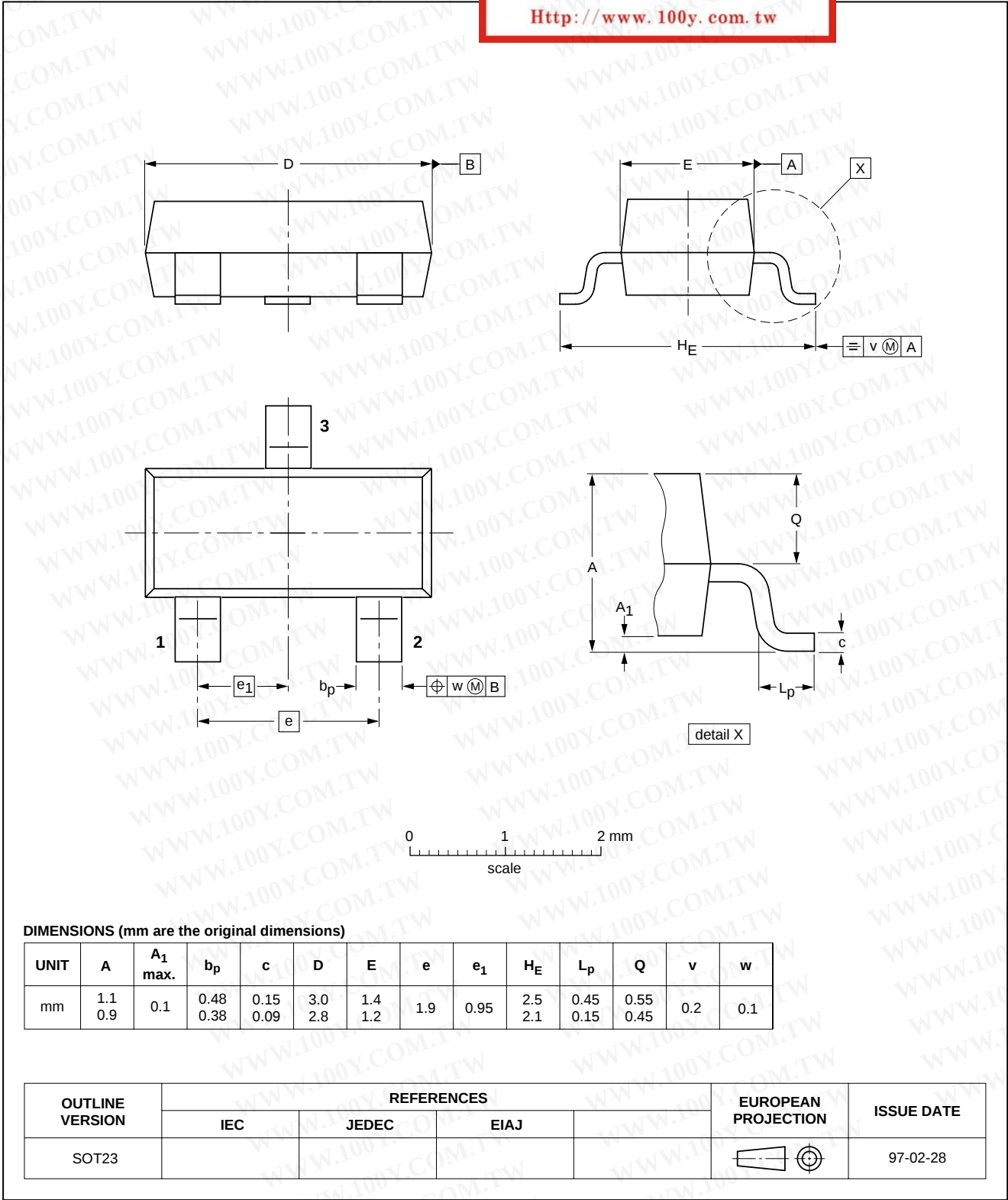
BC817

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23

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NPN general purpose transistor

BC817

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.	

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