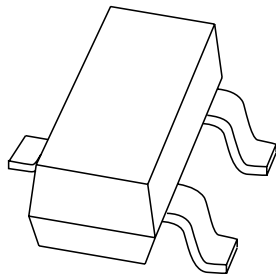


DATA SHEET



BC807 series 45 V, 500 mA general purpose transistor

Product specification
Supersedes data of 1999 Apr 08

2004 Jan 16

45 V, 500 mA general purpose transistor

BC807 series

FEATURES

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

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

PNP transistor in a SOT23 plastic package.
NPN complements: BC817.

MARKING

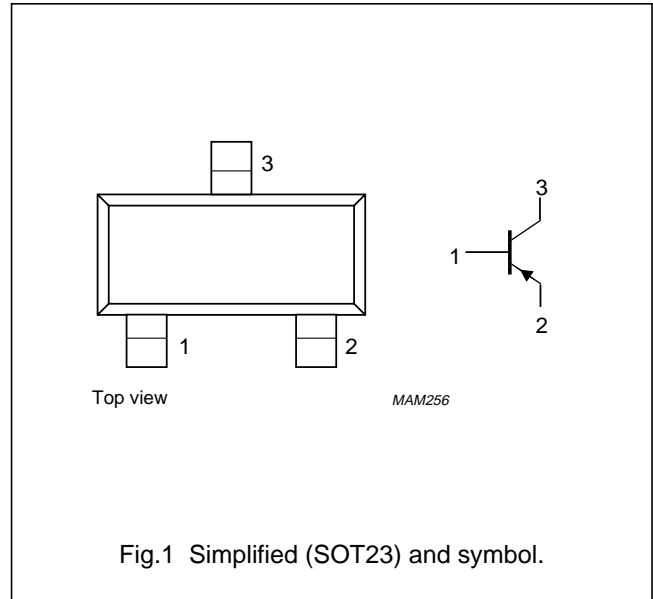
TYPE NUMBER	MARKING CODE ⁽¹⁾
BC807	5D*
BC807-16	5A*
BC807-25	5B*
BC807-40	5C*

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
BC807	-	plastic surface mounted package; 3 leads	SOT23
BC807-16			
BC807-25			
BC807-40			

45 V, 500 mA general purpose transistor

BC807 series

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	–	–50	V
V_{CEO}	collector-emitter voltage	open base; $I_C = -10$ 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	$T_{amb} \leq 25$ °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.

45 V, 500 mA general purpose transistor

BC807 series

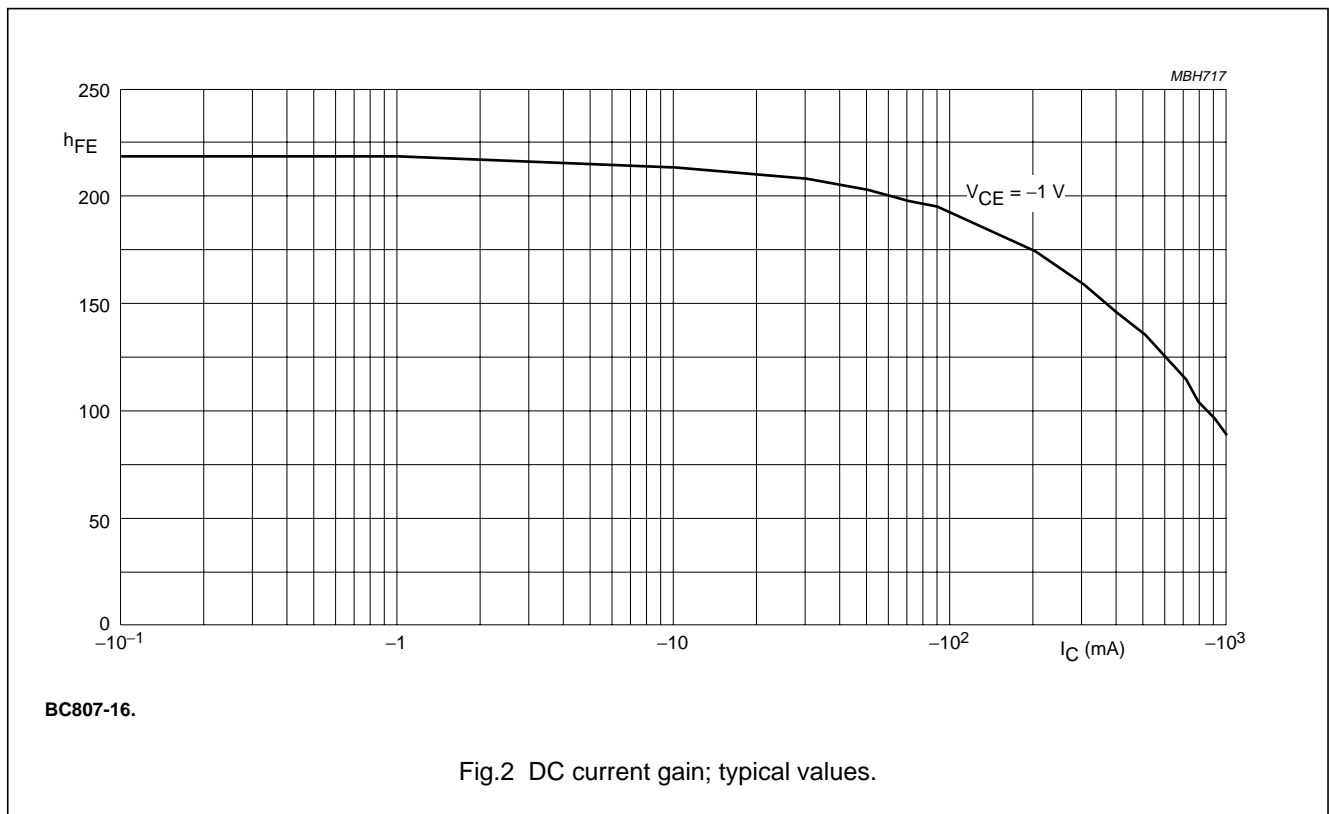
CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I _{CBO}	collector cut-off current	I _E = 0; V _{CB} = -20 V	-	-	-100	nA
		I _E = 0; V _{CB} = -20 V; T _j = 150 °C	-	-	-5	μA
I _{EBO}	emitter cut-off current	I _C = 0; V _{EB} = -5 V	-	-	-100	nA
h _{FE}	DC current gain BC807 BC807-16 BC807-25 BC807-40	I _C = -100 mA; V _{CE} = -1 V; note 1 see Figs 2, 3 and 4	100	-	600	
			100	-	250	
			160	-	400	
			250	-	600	
h _{FE}	DC current gain	I _C = -500 mA; V _{CE} = -1 V; note 1	40	-	-	
V _{CEsat}	collector-emitter saturation voltage	I _C = -500 mA; I _B = -50 mA; note 1	-	-	-700	mV
V _{BE}	base-emitter voltage	I _C = -500 mA; V _{CE} = -1 V; notes 1 and 2	-	-	-1.2	V
C _c	collector capacitance	I _E = I _e = 0; V _{CB} = -10 V; f = 1 MHz	-	9	-	pF
f _T	transition frequency	I _C = -10 mA; V _{CE} = -5 V; f = 100 MHz	80	-	-	MHz

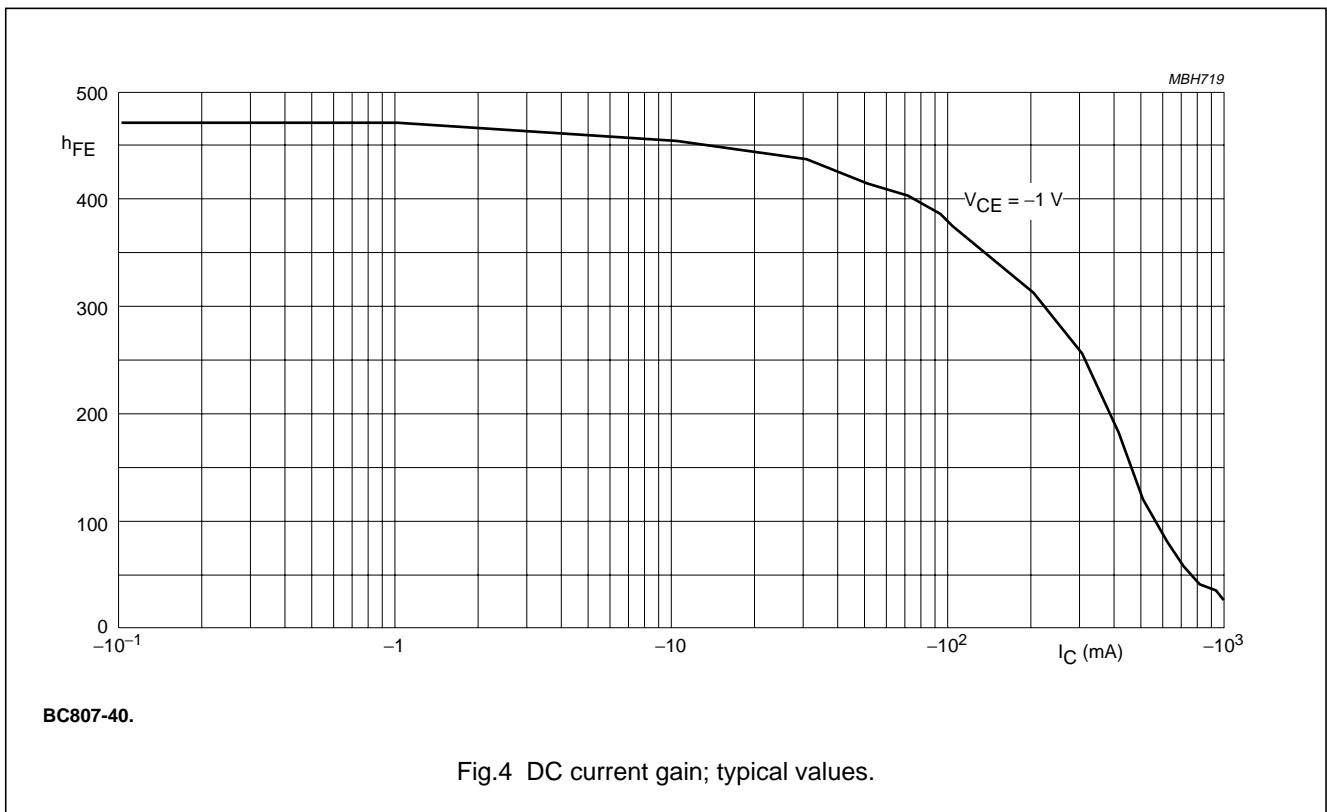
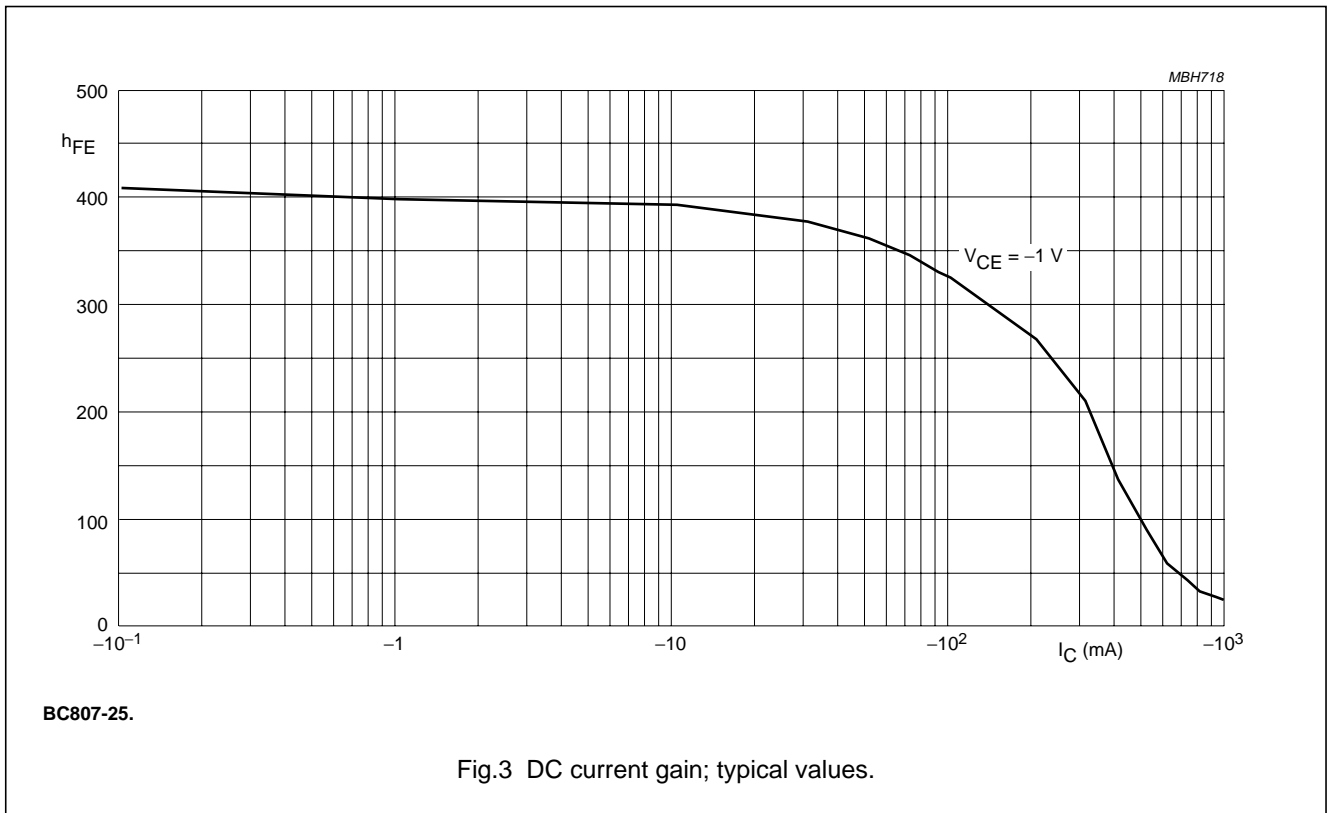
Notes

1. Pulse test: t_p ≤ 300 μs; δ ≤ 0.02.
2. V_{BE} decreases by about -2 mV/K with increasing temperature.



45 V, 500 mA general purpose transistor

BC807 series



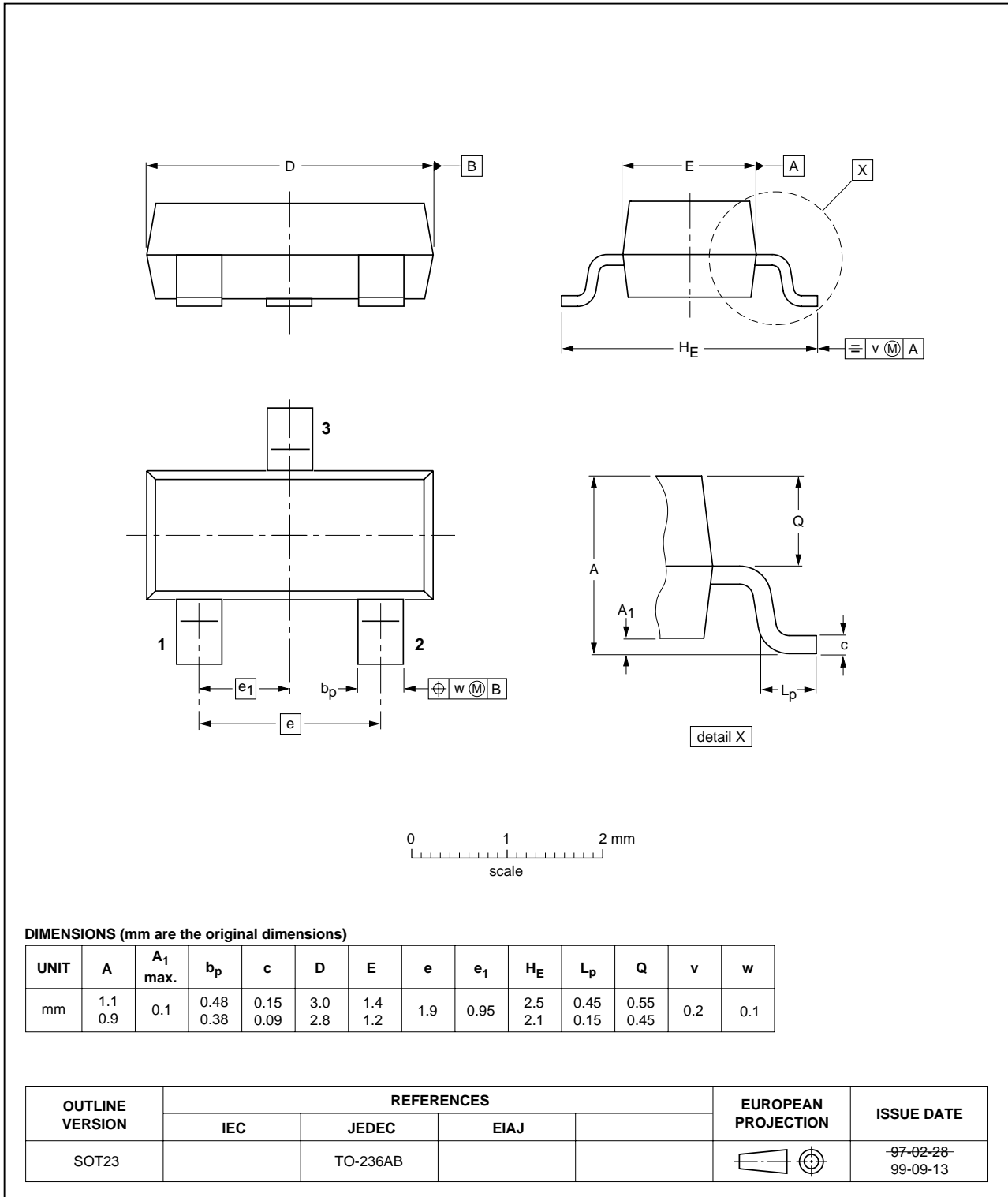
45 V, 500 mA general purpose transistor

BC807 series

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



45 V, 500 mA general purpose transistor

BC807 series

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
II	Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
III	Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

Notes

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2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.
3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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Printed in The Netherlands

R75/04/pp8

Date of release: 2004 Jan 16

Document order number: 9397 750 12393

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