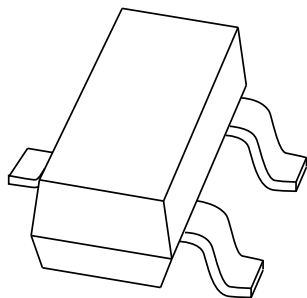


# DATA SHEET



**BF570**

**NPN medium frequency transistor**

Product specification  
Supersedes data of September 1994  
File under Discrete Semiconductors, SC04

1997 Mar 04

# NPN medium frequency transistor

**BF570**

## FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 15 V)
- Low feedback capacitance (max. 2.2 pF).

## APPLICATIONS

- Monitors
- Battery equipped applications.

## DESCRIPTION

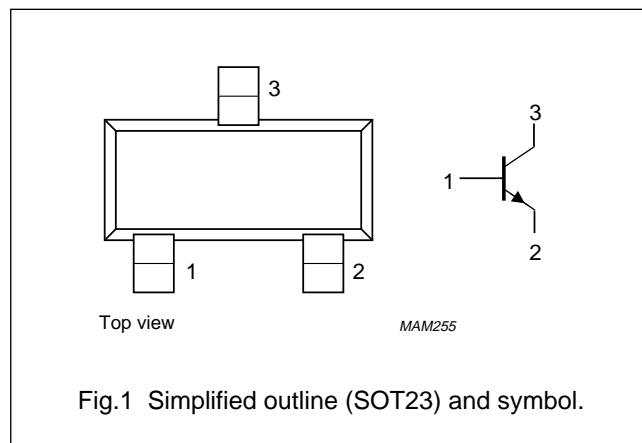
NPN transistor in a SOT23 plastic package.

## MARKING

TYPE NUMBER	MARKING CODE
BF570	B26

## PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



## QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{CBO}$	collector-base voltage	open emitter	–	40	V
$V_{CEO}$	collector-emitter voltage	open base	–	15	V
$I_{CM}$	peak collector current		–	200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$	–	250	mW
$h_{FE}$	DC current gain	$I_C = 10\text{ mA}; V_{CE} = 1\text{ V}$	40	–	
$f_T$	transition frequency	$I_C = 40\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	490	–	MHz

## NPN medium frequency transistor

BF570

**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	–	40	V
$V_{CEO}$	collector-emitter voltage	open base	–	15	V
$V_{EBO}$	emitter-base voltage	open collector	–	4.5	V
$I_C$	collector current (DC)		–	100	mA
$I_{CM}$	peak collector current		–	200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$	–	250	mW
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C
$T_{amb}$	operating ambient temperature		–65	+150	°C

**THERMAL CHARACTERISTICS**

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

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 20\text{ V}$	–	–	400	nA
		$I_E = 0; V_{CB} = 20\text{ V}; T_j = 125\text{ °C}$	–	–	30	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = 2\text{ V}$	–	–	100	nA
$h_{FE}$	DC current gain	$I_C = 10\text{ mA}; V_{CE} = 1\text{ V}$	40	–	–	
$C_{re}$	feedback capacitance	$I_C = 0; V_{CE} = 10\text{ V}; f = 1\text{ MHz}$	–	1.6	2.2	pF
$f_T$	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	500	–	–	MHz
		$I_C = 40\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	490	–	–	MHz

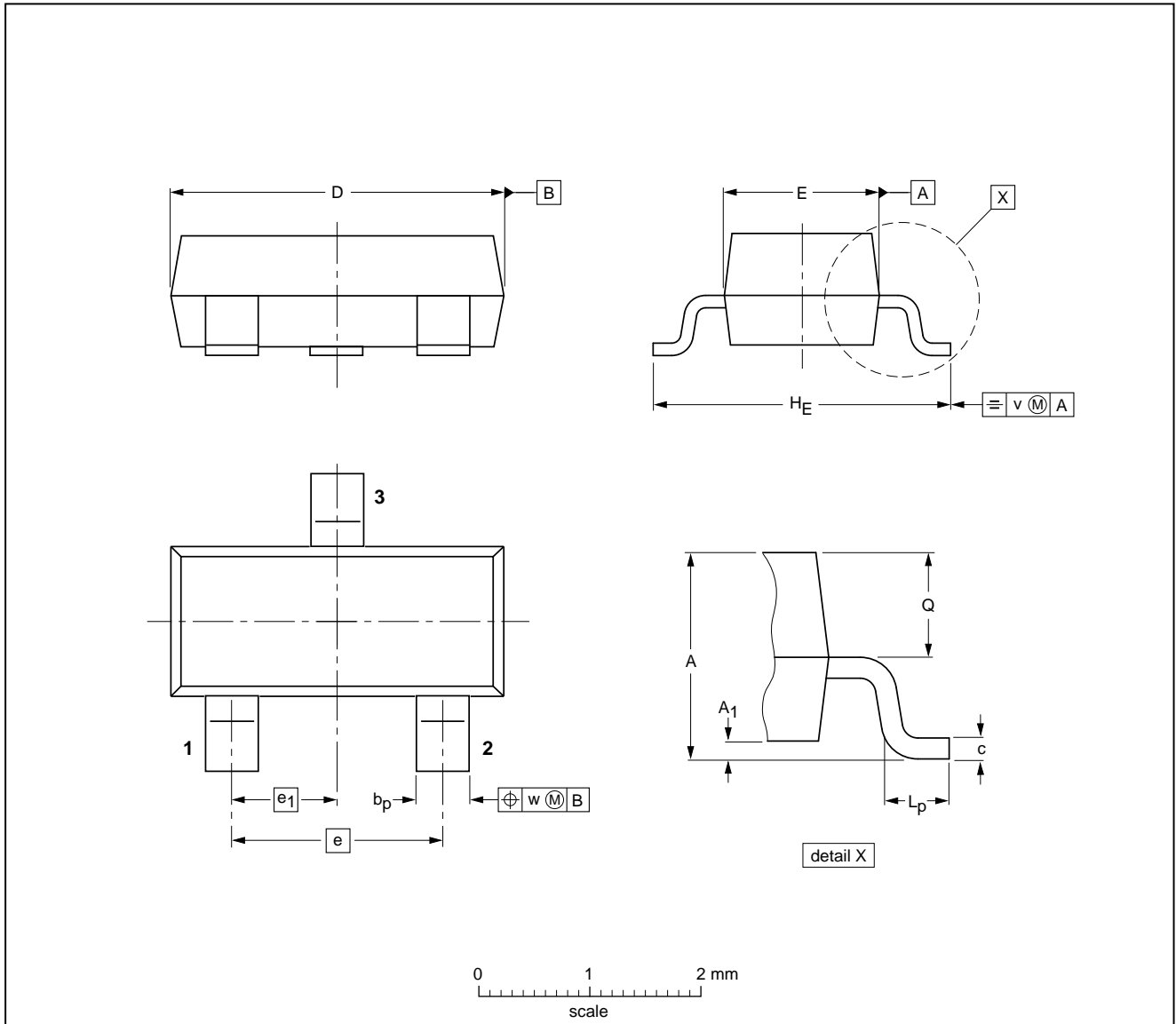
NPN medium frequency transistor

BF570

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23						97-02-28

## NPN medium frequency transistor

BF570

**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.	

**LIFE SUPPORT APPLICATIONS**

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

NPN medium frequency transistor

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**NOTES**

NPN medium frequency transistor

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**NOTES**

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Printed in The Netherlands

117047/00/02/pp8

Date of release: 1997 Mar 04

Document order number: 9397 750 01406

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