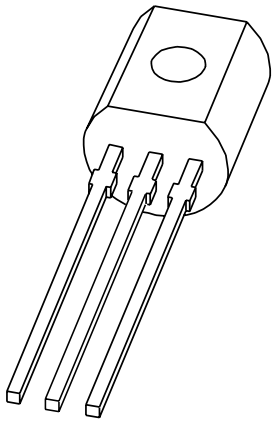
DATA SHEET



BF370
NPN medium frequency transistor

Product data sheet
Supersedes data of 1999 Apr 21

2004 Nov 08

NXP founded by Philips

NPN medium frequency transistor BF370

FEATURES

- Low current (max. 100 mA)
- Low voltage (max. 15 V).

APPLICATIONS

- IF preamplifiers of television receivers.

DESCRIPTION

NPN medium frequency transistor in a TO-92; SOT54 plastic package.

PINNING

PIN	DESCRIPTION
1	emitter
2	base
3	collector

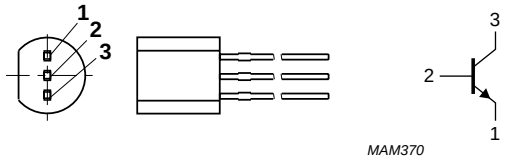


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BF370	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54

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	–	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	$T_{amb} \leq 25$ °C; note 1	–	500	mW
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	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	250	K/W

Note

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

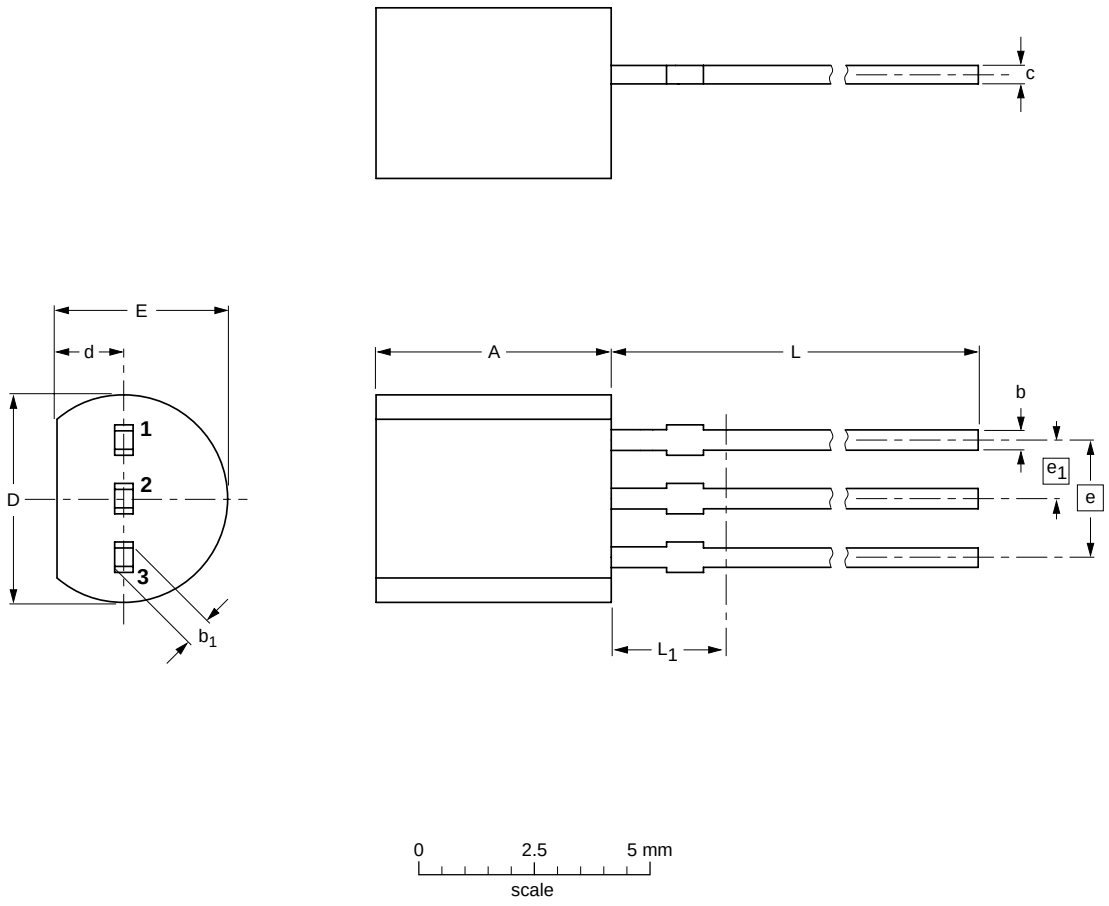
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	V_{CB} = 20 V; I_E = 0 A	–	–	400	nA
		V_{CB} = 20 V; I_E = 0 A; T_j = 125 °C	–	–	30	μA
I_{EBO}	emitter-base cut-off current	V_{EB} = 2 V; I_C = 0 A	–	–	100	nA
h_{FE}	DC current gain	V_{CE} = 1 V; I_C = 10 mA	40	–	–	
C_c	collector capacitance	V_{CB} = 10 V; $I_E = i_e$ = 0 A; f = 1 MHz	–	2.2	–	pF
C_e	emitter capacitance	V_{EB} = 1 V; $I_C = i_c$ = 0 A; f = 1 MHz	–	–	4.5	pF
C_{re}	feedback capacitance	V_{CB} = 10 V; I_C = 0 A; f = 1 MHz	–	1.6	–	pF
f_T	transition frequency	V_{CE} = 10 V; f = 100 MHz				
		I_C = 10 mA	500	–	–	MHz
		I_C = 40 mA	490	–	–	MHz

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads **SOT54**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b_1	c	D	d	E	e	e_1	L	L_1 (1) max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

Note

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT54		TO-92	SC-43A			~~04-06-28~~ 04-11-16

DATA SHEET STATUS

DOCUMENT STATUS[1]	PRODUCT STATUS[2]	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.

Notes

1. Please consult the most recently issued document before initiating or completing a design.
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NXP Semiconductors

Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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