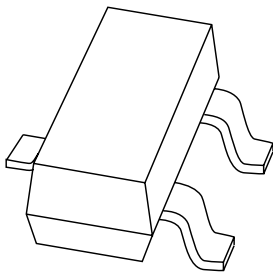


DATA SHEET



BF824

PNP medium frequency transistor

Product data sheet
Supersedes data of 1999 Apr 15

2004 Jan 16

PNP medium frequency transistor

BF824

FEATURES

- Low current (max. 25 mA)
- Low voltage (max. 30 V).

APPLICATIONS

- RF stages in FM front-ends in common base configuration.

DESCRIPTION

PNP medium frequency transistor in a SOT23 plastic package.

MARKING

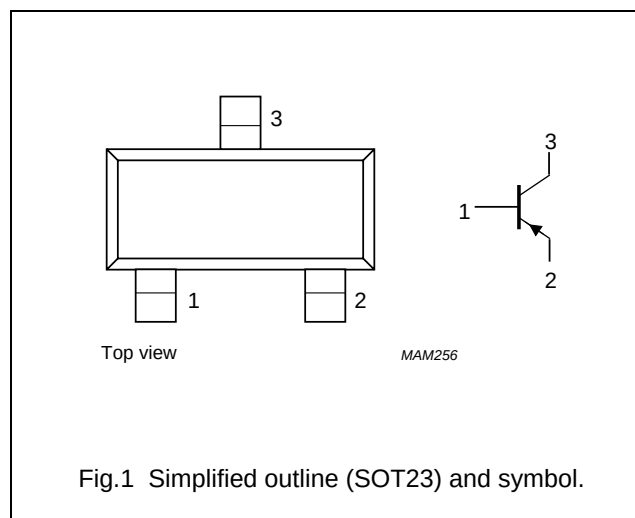
TYPE NUMBER	MARKING CODE ⁽¹⁾
BF824	F8*

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
BF824	–	plastic surface mounted package; 3 leads	SOT23

PNP medium frequency transistor

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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	–	–30	V
V_{CEO}	collector-emitter voltage	open base	–	–30	V
V_{EBO}	emitter-base voltage	open collector	–	–4	V
I_C	collector current (DC)		–	–25	mA
I_{CM}	peak collector current		–	–25	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$; note 1	–	250	mW
T_{stg}	storage temperature		–65	+150	$^{\circ}\text{C}$
T_j	junction temperature		–	150	$^{\circ}\text{C}$
T_{amb}	operating ambient temperature		–65	+150	$^{\circ}\text{C}$

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.

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = -30\text{ V}$	–	–	–50	nA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = -4\text{ V}$	–	–	–100	nA
h_{FE}	DC current gain	$I_C = -1\text{ mA}$; $V_{CE} = -10\text{ V}$	25	45	–	
		$I_C = -4\text{ mA}$; $V_{CE} = -10\text{ V}$	25	50	–	
V_{BE}	base-emitter voltage	$I_C = -4\text{ mA}$; $V_{CE} = -10\text{ V}$	–	–	–900	mV
C_{re}	feedback capacitance	$I_C = 0$; $V_{CE} = -10\text{ V}$; $f = 1\text{ MHz}$	–	–	0.3	pF
f_T	transition frequency	$V_{CE} = -10\text{ V}$; $f = 100\text{ MHz}$				
		$I_C = -1\text{ mA}$	250	350	–	MHz
		$I_C = -4\text{ mA}$	400	450	–	MHz
		$I_C = -8\text{ mA}$	390	440	–	MHz

PNP medium frequency transistor

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PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23

The diagrams illustrate the SOT23 package outline. The top view shows dimensions D (total width) and B (lead width). The side view shows dimensions E (lead length), A (package height), H_E (lead height), v (lead thickness), w (lead width), and A₁ (lead thickness at base). The bottom view shows dimensions A (package height), Q (lead height), c (lead thickness), L_p (lead length), e (pitch), e₁ (lead width), b_p (lead width), and w (lead width). A scale bar indicates 0 to 2 mm.

DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	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	JEITA			
SOT23		TO-236AB				04-11-04 06-03-16

PNP medium frequency transistor

BF824

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.
2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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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

For additional information please visit: <http://www.nxp.com>

For sales offices addresses send e-mail to: salesaddresses@nxp.com

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