

BF824,235 Datasheet



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DiGi Electronics Part Number	BF824,235-DG
Manufacturer	Nexperia USA Inc.
Manufacturer Product Number	BF824,235
Description	TRANS PNP 30V 0.025A TO236AB
Detailed Description	Bipolar (BJT) Transistor PNP 30 V 25 mA 450MHz 250 mW Surface Mount TO-236AB



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Purchase and inquiry

Manufacturer Product Number:

BF824,235

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

30 V

Current - Collector Cutoff (Max):

50nA (ICBO)

Power - Max:

250 mW

Operating Temperature:

150°C (TJ)

Qualification:

AEC-Q101

Package / Case:

TO-236-3, SC-59, SOT-23-3

Base Product Number:

BF824

Manufacturer:

Nexperia USA Inc.

Product Status:

Active

Current - Collector (Ic) (Max):

25 mA

Vce Saturation (Max) @ Ib, Ic:

-

DC Current Gain (hFE) (Min) @ Ic, Vce:

25 @ 4mA, 10V

Frequency - Transition:

450MHz

Grade:

Automotive

Mounting Type:

Surface Mount

Supplier Device Package:

TO-236AB

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0075

Moisture Sensitivity Level (MSL):

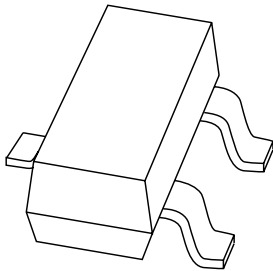
1 (Unlimited)

ECCN:

EAR99

DISCRETE SEMICONDUCTORS

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

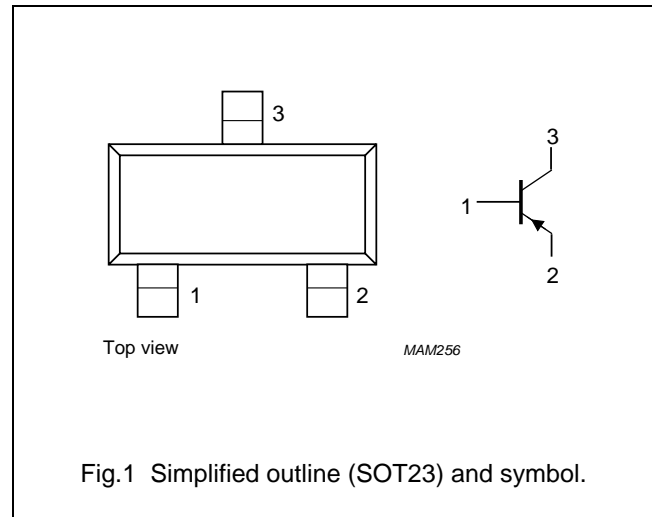
TYPE NUMBER	MARKING CODE ⁽¹⁾
BF824	F8*

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

BF824

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	$T_{amb} \leq 25\text{ °C}$; 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.

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = -30\text{ V}$	–	–	–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

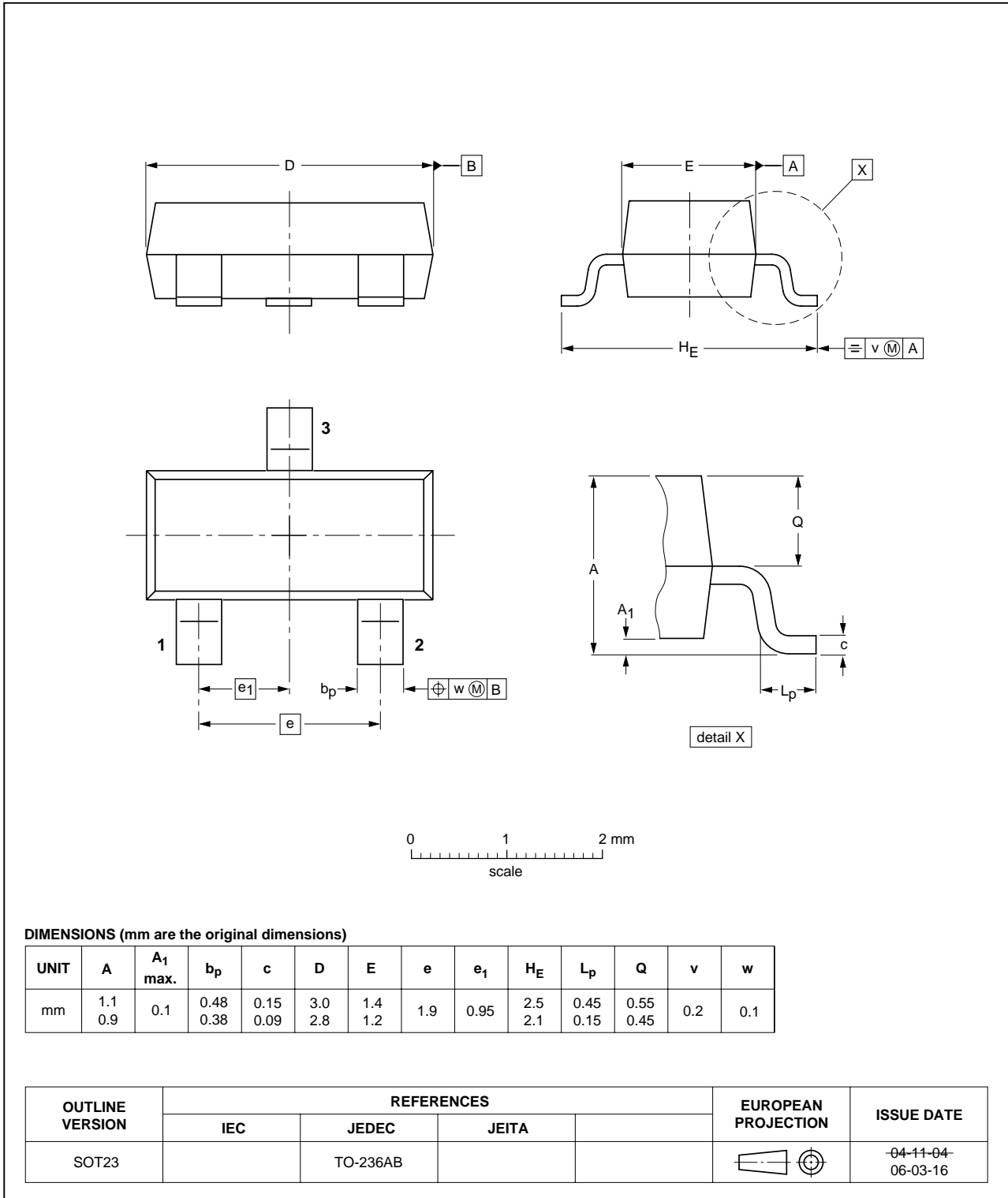
PNP medium frequency transistor

BF824

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



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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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>

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