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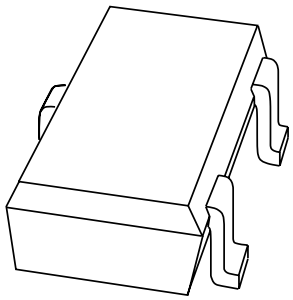
Team Nexperia

DATA SHEET



BF824W
PNP medium frequency transistor

Product data sheet
Supersedes data of 1997 Jul 07

1999 Apr 15

PNP medium frequency transistor BF824W

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 SOT323 plastic package.

MARKING

TYPE NUMBER	MARKING CODE(1)
BF824W	F8∗

Note

1. ∗ = - : Made in Hong Kong.
   ∗ = t : Made in Malaysia.

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

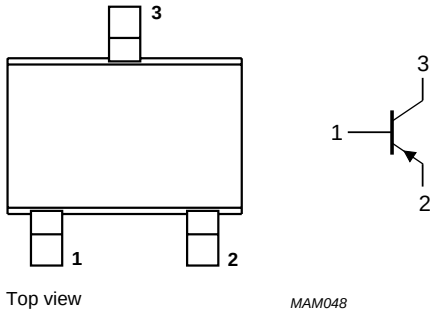


Fig.1 Simplified outline (SOT323) and symbol.

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	–	−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	$T_{amb} \leq 25$ °C; note 1	–	200	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
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	625	K/W

Note

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

CHARACTERISTICS

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

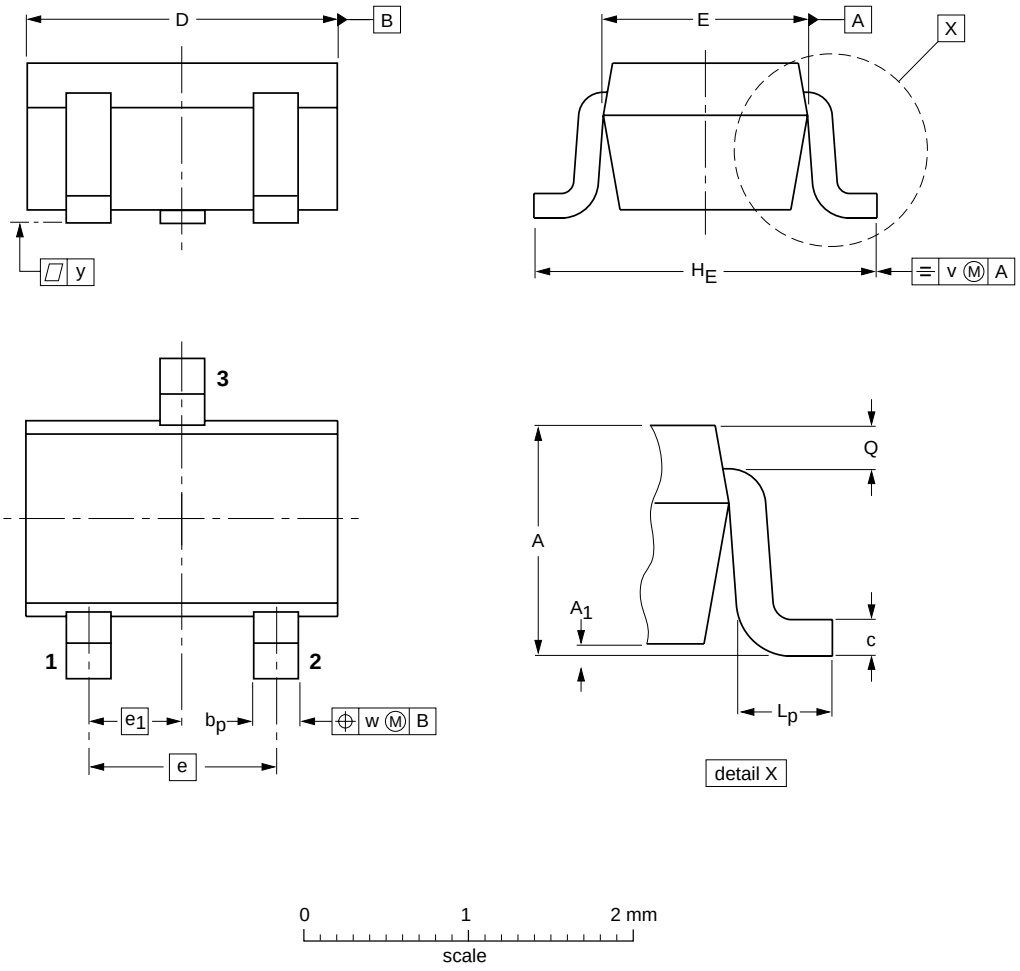
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = −30 V	−	−50	nA
		I_E = 0; V_{CB} = −30 V; T_j = 150 °C	−	−10	μA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = −4 V	−	−100	nA
h_{FE}	DC current gain	I_C = −1 mA; V_{CE} = −10 V	25	−	
		I_C = −4 mA; V_{CE} = −10 V	25	−	
V_{BE}	base-emitter voltage	I_C = −4 mA; V_{CE} = −10 V	−	−900	mV
C_{rb}	feedback capacitance	I_C = 0; V_{CE} = −10 V; f = 1 MHz	−	0.3	pF
f_T	transition frequency	V_{CE} = −10 V; f = 100 MHz; note 1			
		I_C = −1 mA	250	−	MHz
		I_C = −4 mA	400	−	MHz
		I_C = −8 mA	390	−	MHz

Note

1. Pulse test: $t_p \leq 300\ \mu s$; $\delta \leq 0.02$.

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT323**



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 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT323			SC-70			97-02-28

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.

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NXP Semiconductors

Customer notification

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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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