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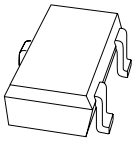


2PA1576

PNP general-purpose transistor

Rev. 06 — 17 November 2009 Product data sheet

1. Product profile

1.1 General description

PNP transistor in a SOT323 (SC-70) plastic package. The NPN complement is 2PC4081.

1.2 Features

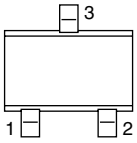
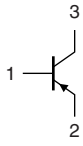
- Low current (max. 150 mA)
- Low voltage (max. 50 V)
- Low collector capacitance (typ. 2.5 pF)

1.3 Applications

- General-purpose switching and amplification

2. Pinning information

Table 1. Pinning

Pin	Description	Simplified outline	Symbol
1	base		
2	emitter		
3	collector		

sym013

3. Ordering information

Table 2. Ordering information

Type number	Package		
	Name	Description	Version
2PA1576Q	SC-70	plastic surface mounted package; 3 leads	SOT323
2PA1576R			
2PA1576S			

4. Marking

Table 3. Marking codes

Type number	Marking code[1]
2PA1576Q	F*Q
2PA1576R	F*R
2PA1576S	F*S

[1] * = -: made in Hong Kong
* = t: made in Malaysia

5. Limiting values

Table 4. 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		-	–60	V
V_{CEO}	collector-emitter voltage	open base		-	–50	V
V_{EBO}	emitter-base voltage	open collector		-	–6	V
I_C	collector current (DC)			-	–150	mA
I_{CM}	peak collector current			-	–200	mA
I_{BM}	peak base current			-	–200	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	[1]	-	200	mW
T_{stg}	storage temperature			–65	+150	°C
T_j	junction temperature			-	150	°C
T_{amb}	ambient temperature			–65	+150	°C

[1] Transistor mounted on an FR4 printed-circuit board, single-sided copper, tin-plated and standard footprint.

6. Thermal characteristics

Table 5. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient		[1]	-	-	625	K/W

[1] Transistor mounted on an FR4 printed-circuit board, single-sided copper, tin-plated and standard footprint.

7. Characteristics

Table 6. Characteristics

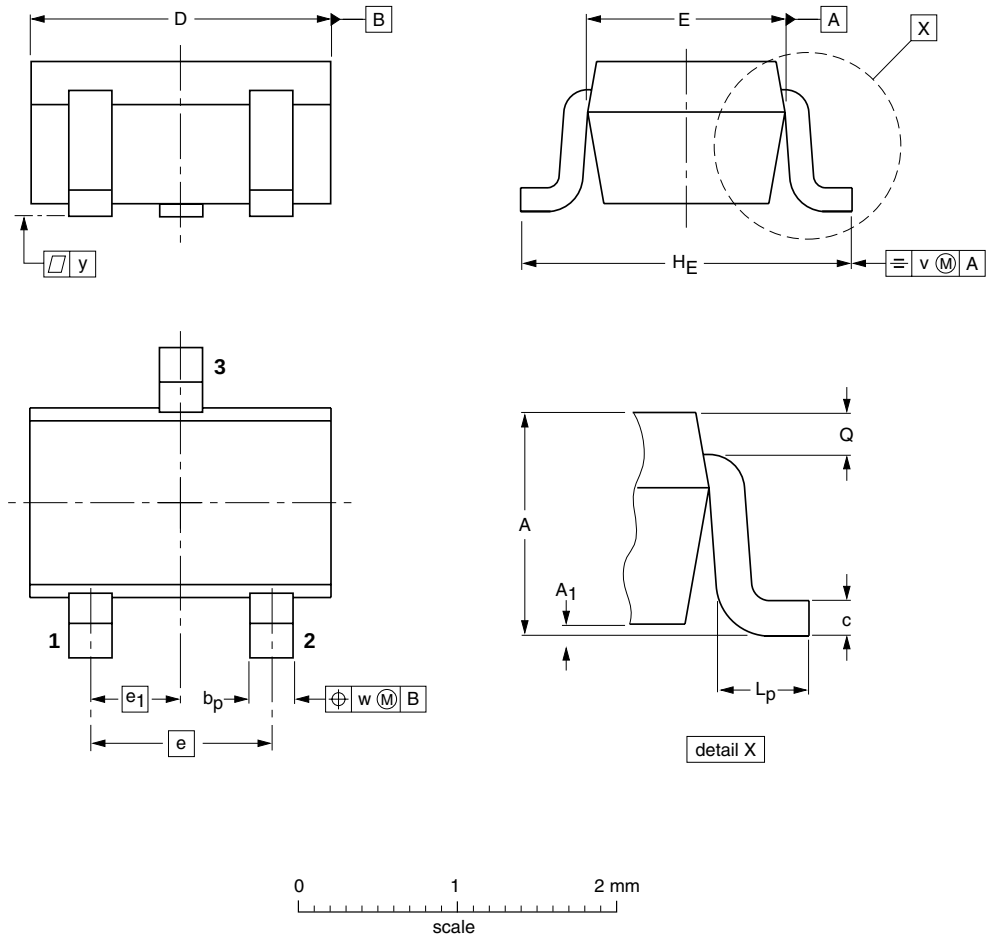
T_{amb} = 25 °C unless otherwise specified.

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
I_{CBO}	collector-base cut-off current	I_E = 0 A; V_{CB} = –30 V		-	-	–100	nA
		I_E = 0 A; V_{CB} = –30 V; T_j = 150 °C		-	-	–5	μA
I_{EBO}	emitter-base cut-off current	I_C = 0 A; V_{EB} = –4 V		-	-	–100	nA
h_{FE}	DC current gain	I_C = –1 mA; V_{CE} = –6 V					
	2PA1576Q			120	-	270	
	2PA1576R			180	-	390	
	2PA1576S			270	-	560	
V_{CEsat}	collector-emitter saturation voltage	I_C = –50 mA; I_B = –5 mA	[1]	-	-	–500	mV
C_c	collector capacitance	$I_E = i_e$ = 0 A; V_{CB} = –12 V; f = 1 MHz		-	2.5	3.5	pF
f_T	transition frequency	I_C = –2 mA; V_{CE} = –12 V; f = 100 MHz		100	-	-	MHz

[1] Pulse test: $t_p \leq 300$ μs; $\delta \leq 0.02$.

8. 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	JEITA			
SOT323			SC-70			~~04-11-04~~ 06-03-16

Fig 1. Package outline SOT323 (SC-70)

9. Revision history

Table 7. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
2PA1576_6	20091117	Product data sheet	-	2PA1576_5
Modifications:	• 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. • Figure 1 “Package outline SOT323 (SC-70)”: updated			
2PA1576_5	20041124	Product data sheet	-	2PA1576_4
2PA1576_4	19990531	Product specification	-	2PA1576_3
2PA1576_3	19970328	Objective specification	-	2PA1576_2
2PA1576_2	19931213	n.a.	-	n.a.

10. Legal information

10.1 Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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12. Contents

1	**Product profile**	**1**
1.1	General description	1
1.2	Features	1
1.3	Applications	1
2	**Pinning information**	**1**
3	**Ordering information**	**1**
4	**Marking**	**2**
5	**Limiting values**	**2**
6	**Thermal characteristics**	**2**
7	**Characteristics**	**3**
8	**Package outline**	**4**
9	**Revision history**	**5**
10	**Legal information**	**6**
10.1	Data sheet status	6
10.2	Definitions	6
10.3	Disclaimers	6
10.4	Trademarks	6
11	**Contact information**	**6**
12	**Contents**	**7**

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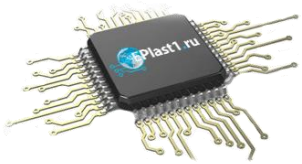

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