

Product data sheet

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	3
3	collector		1 —
			sym013

Ordering information 3.

Ordering information Table 2.

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



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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

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} ≤ 25 °C	<u>[1]</u> _	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	Тур	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient		<u>[1]</u> -	-	625	K/W

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

^{* =} t: made in Malaysia

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Characteristics

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Table 6. Characteristics

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

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

^[1] Pulse test: $t_p \le 300~\mu s;~\delta \le 0.02.$

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Package outline 8.

Plastic surface-mounted package; 3 leads **SOT323** В Α X H_{E} = v (M) A Q **→** | w (M) B е detail X 2 mm scale **DIMENSIONS** (mm are the original dimensions) UNIT D С Ε Q bp e₁ ΗE $L_{\mathbf{p}}$ w max 0.25 2.2 1.35 0.23 0.1 1.3 0.65 0.2 0.2 mm 0.8 1.15 REFERENCES **EUROPEAN** OUTLINE **ISSUE DATE** PROJECTION VERSION IEC **JEDEC JEITA** 04-11-04 SOT323 SC-70 06-03-16

Package outline SOT323 (SC-70) Fig 1.

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9. Revision history

Table 7. Revision history

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Document ID	Release date	Data sheet status	Change notice	Supersedes					
2PA1576_6	20091117	Product data sheet	-	2PA1576_5					
Modifications:	including nev content.	eet was changed to reflect the was changed to reflect the was legal definitions and disclain change outline SOT323 (SC-7	imers. No changes w						
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.					

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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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