

2PC4617

NPN general-purpose transistor

Rev. 04 — 25 November 2004

Product data sheet

1. Product profile

1.1 General description

NPN transistor in a SOT416 (SC-75) plastic package. The PNP complement is 2PA1774.

1.2 Features

- Low current (max. 150 mA)
- Low voltage (max. 50 V).

1.3 Applications

- General-purpose switching and amplification in communication, Electronic Data Processing (EDP) and consumer applications.

2. Pinning information

Table 1: Pinning

Pin	Description	Simplified outline	Symbol
1	base		
2	emitter		
3	collector		

3. Ordering information

Table 2: Ordering information

Type number	Package		Version
	Name	Description	
2PC4617Q	SC-75	plastic surface mounted package; 3 leads	SOT416
2PC4617R			
2PC4617S			

4. Marking

Table 3: Marking codes

Type number	Marking code
2PC4617Q	ZQ
2PC4617R	ZR
2PC4617S	ZS

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	-	7	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	$T_{amb} \leq 25\text{ °C}$	[1] -	150	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] -	-	833	K/W

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

7. Characteristics

Table 6: Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$; unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
I_{CBO}	collector-base cut-off current	$I_E = 0\text{ A}$; $V_{CB} = 30\text{ V}$	-	-	100	nA
		$I_E = 0\text{ A}$; $V_{CB} = 30\text{ V}$; $T_j = 150\text{ }^{\circ}\text{C}$	-	-	5	μA
I_{EBO}	emitter-base cut-off current	$I_C = 0\text{ A}$; $V_{EB} = 4\text{ V}$	-	-	100	nA
h_{FE}	DC current gain	$I_C = 1\text{ mA}$; $V_{CE} = 6\text{ V}$	[1]			
		2PC4617Q	120	-	270	
		2PC4617R	180	-	390	
		2PC4617S	270	-	560	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 50\text{ mA}$; $I_B = 5\text{ mA}$	[1]	-	200	mV
C_c	collector capacitance	$I_E = i_e = 0\text{ A}$; $V_{CB} = 12\text{ V}$; $f = 1\text{ MHz}$	-	-	1.5	pF
f_T	transition frequency	$I_C = 2\text{ mA}$; $V_{CE} = 12\text{ V}$; $f = 100\text{ MHz}$	[1]	100	-	MHz

[1] Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

8. Package outline

Plastic surface mounted package; 3 leads

SOT416

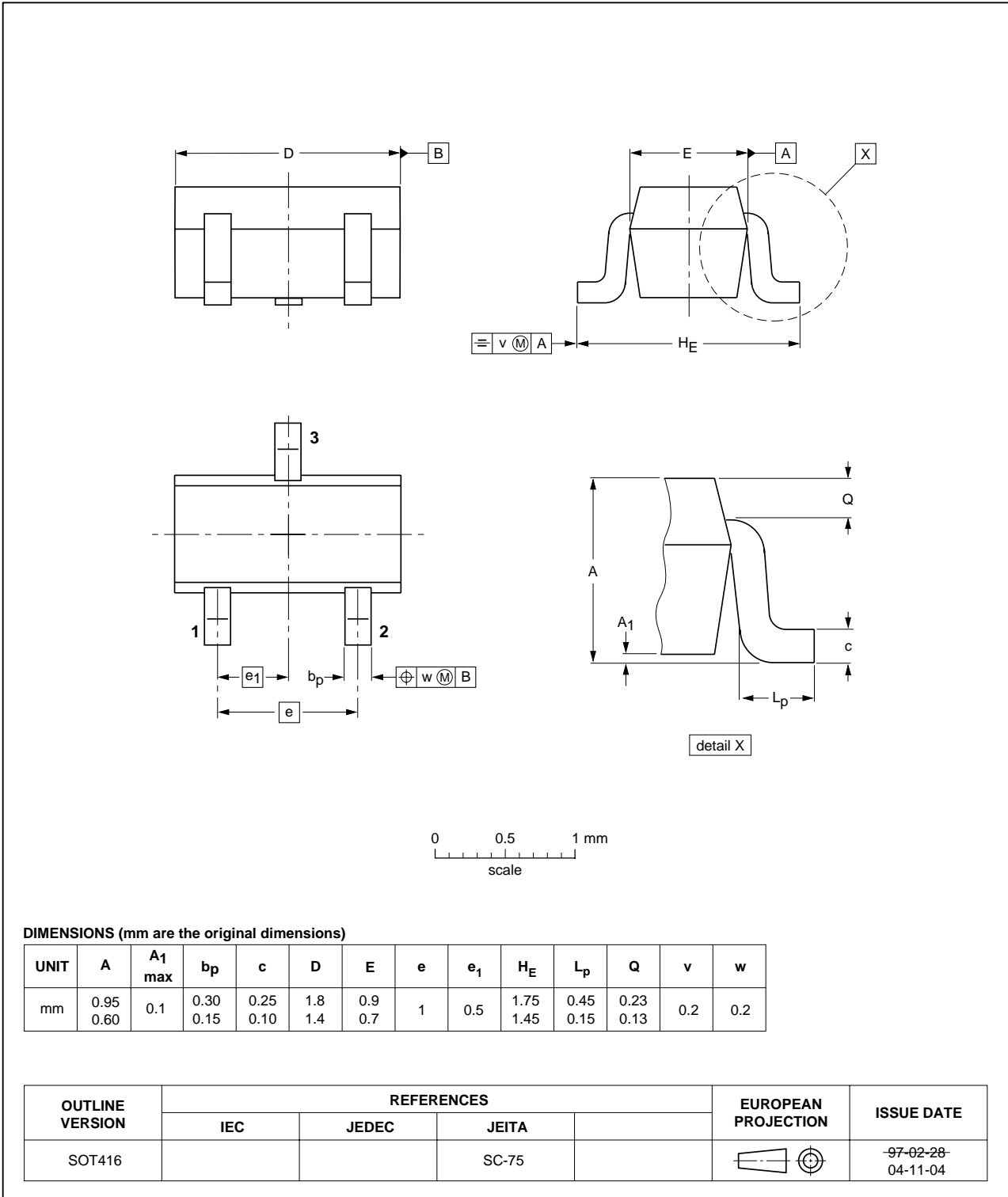


Fig 1. Package outline SOT416 (SC-75)

9. Revision history

Table 7: Revision history

Document ID	Release date	Data sheet status	Change notice	Doc. number	Supersedes
2PC4617_4	20041125	Product data sheet	-	9397 750 14085	2PC4617_3
Modifications:	<ul style="list-style-type: none"> • The format of this data sheet has been redesigned to comply with the new presentation and information standard of Philips Semiconductors. • Section 1.2: maximum low current upgraded • Table 4: V_{CBO} value changed to 60 V • Table 4: V_{EBO} value changed to 7 V • Table 4: I_C value changed to 150 mA. 				
2PC4617_3	19990521	Product specification	-	9397 750 05959	2PC4617_2
2PC4617_2	19980721	Product specification	-	9397 750 04113	2PC4617_1
2PC4617_1	19970709	Product specification	-	9397 750 02011	-

10. Data sheet status

Level	Data sheet status ^[1]	Product status ^[2] ^[3]	Definition
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14. 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	Data sheet status	6
11	Definitions	6
12	Disclaimers	6
13	Contact information	6



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