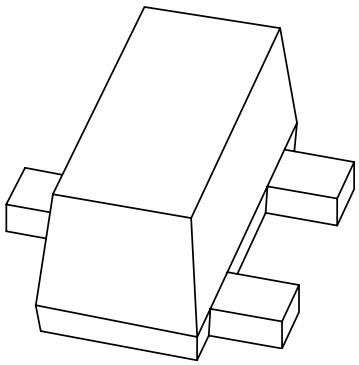
DATA SHEET



2PA1774J
PNP general purpose transistor

Product specification
Supersedes data of 2000 Dec 12

2001 Aug 03

Philips
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PNP general purpose transistor 2PA1774J

FEATURES

- Power dissipation comparable to SOT23
- Low output capacitance
- Low saturation voltage V_{CEsat}
- Low current (max. 100 mA)
- Low voltage (max. 50 V).

APPLICATIONS

- General purpose switching and amplification in miniaturized application areas such as telecom and multimedia.

DESCRIPTION

PNP transistor encapsulated in an ultra small plastic SMD SC-89 (SOT490) package.
NPN complement: 2PC4617J.

MARKING

TYPE NUMBER	MARKING CODE
2PA1774QJ	YQ
2PA1774RJ	YR
2PA1774SJ	YS

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

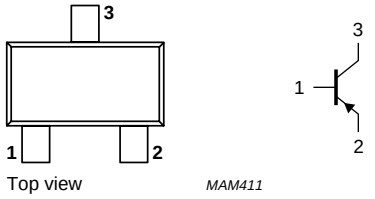


Fig.1 Simplified outline (SC-89; SOT490) and symbol.

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	–	–50	V
V_{CEO}	collector-emitter voltage	open base	–	–50	V
V_{EBO}	emitter-base voltage	open collector	–	–5	V
I_C	collector current (DC)		–	–100	mA
I_{CM}	peak collector current		–	–200	mA
I_{BM}	peak base current		–	–100	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °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. Refer to SC-89 (SOT490) standard mounting conditions.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	in free air; note 1	500	K/W

Note

1. Refer to SC-89 (SOT490) standard mounting conditions.

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	–	–100	nA
		I_E = 0; V_{CB} = –30 V; T_j = 150 °C	–	–5	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} = –6 V; note 1			
	2PA1774QJ		120	270	
	2PA1774RJ		180	390	
	2PA1774SJ		270	560	
V_{CEsat}	collector-emitter saturation voltage	I_C = –50 mA; I_B = –5 mA; note 1	–	–200	mV
C_c	collector capacitance	$I_E = i_e$ = 0; V_{CB} = –12 V; f = 1 MHz	–	2.2	pF
f_T	transition frequency	I_C = –2 mA; V_{CE} = –12 V; f = 100 MHz; note 1	100	–	MHz

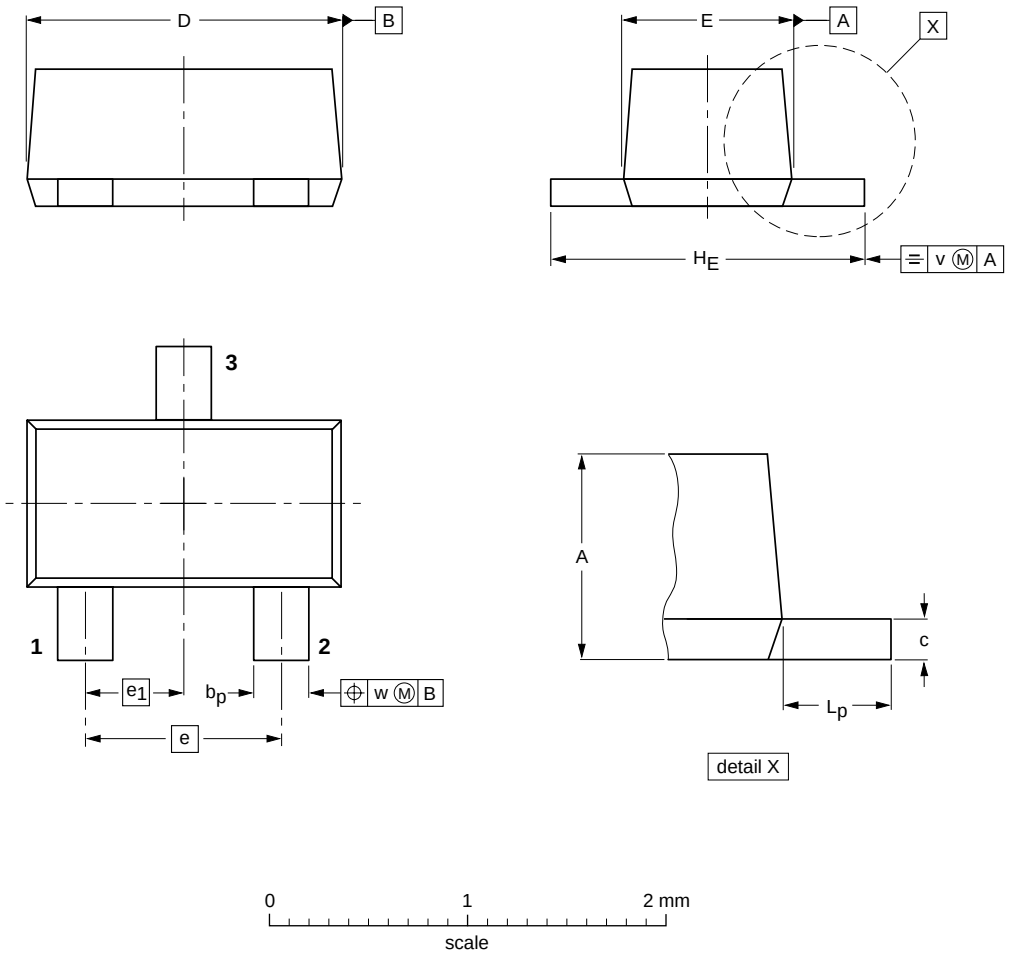
Note

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

PNP general purpose transistor 2PA1774J

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT490**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	e	e_1	H_E	L_p	v	w
mm	0.8 0.6	0.33 0.23	0.2 0.1	1.7 1.5	0.95 0.75	1.0	0.5	1.7 1.5	0.5 0.3	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT490			SC-89			98-10-23

DATA SHEET STATUS

DATA SHEET STATUS[1]	PRODUCT STATUS[2]	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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NOTES

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