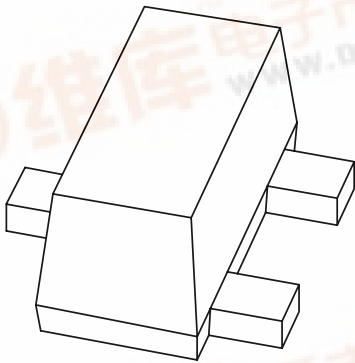


**DISCRETE SEMICONDUCTORS**

# DATA SHEET



## 2PA1774J

### PNP general purpose transistor

Preliminary specification  
Supersedes data of 1998 Nov 10

1999 May 04

# 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
2PA1774JQ	YQ
2PA1774JR	YR
2PA1774JS	YS

### PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

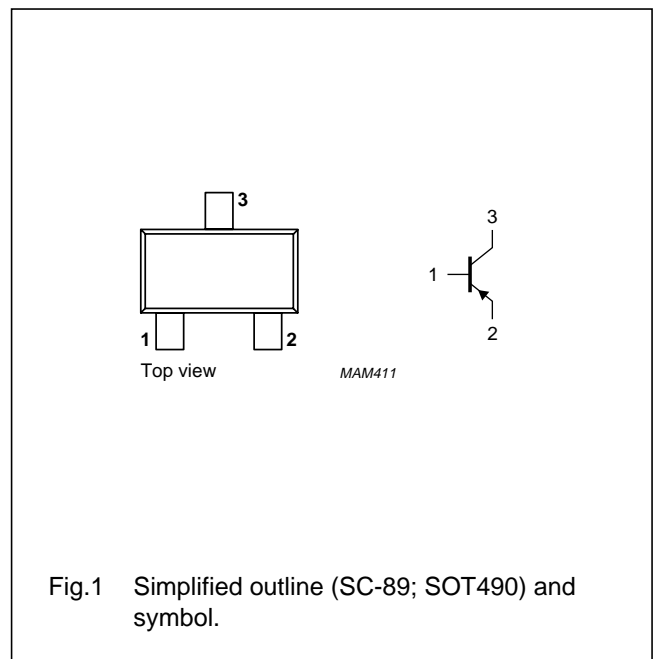


Fig.1 Simplified outline (SC-89; SOT490) and symbol.

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

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	$T_{amb} \leq 25\text{ °C}$ ; 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.

## PNP general purpose transistor

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## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
$R_{th\ j-a}$	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

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -30\text{ V}$	–	–100	nA
		$I_E = 0; V_{CB} = -30\text{ V}; T_j = 150\text{ °C}$	–	–5	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -4\text{ V}$	–	–100	nA
$h_{FE}$	DC current gain 2PA1774JQ 2PA1774JR 2PA1774JS	$I_C = -1\text{ mA}; V_{CE} = -6\text{ V};$ note 1	120	270	
			180	390	
			270	560	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -50\text{ mA}; I_B = -5\text{ mA};$ note 1	–	–200	mV
$C_c$	collector capacitance	$I_E = i_e = 0; V_{CB} = -12\text{ V}; f = 1\text{ MHz}$	–	2.2	pF
$f_T$	transition frequency	$I_C = -2\text{ mA}; V_{CE} = -12\text{ V};$ $f = 100\text{ MHz};$ note 1	100	–	MHz

## Note

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

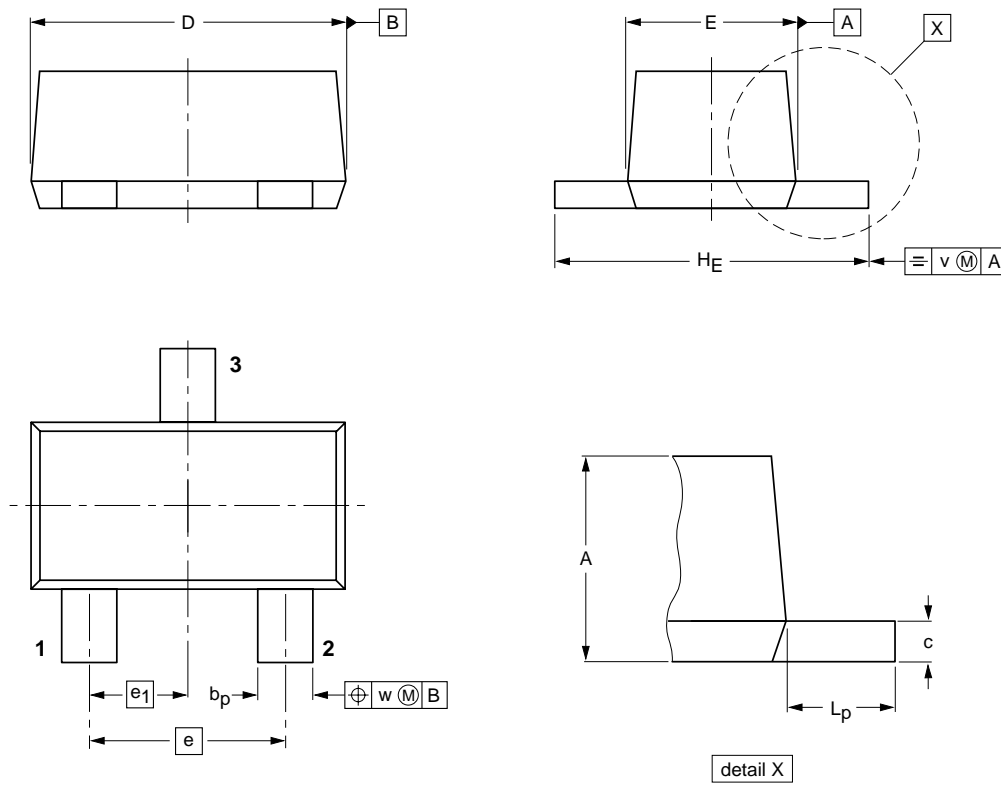
PNP general purpose transistor

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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

## PNP general purpose transistor

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**DEFINITIONS**

<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

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**NOTES**

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**NOTES**

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