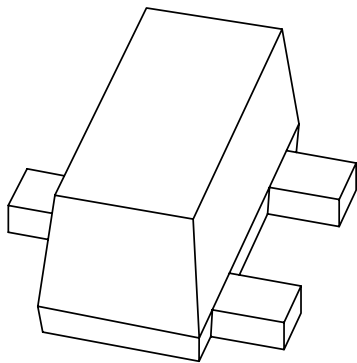


# DATA SHEET



**2PC4617J**

**NPN general purpose transistor**

Product specification  
Supersedes data of 1999 May 04

2001 Aug 03

# NPN general purpose transistor

# 2PC4617J

### 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

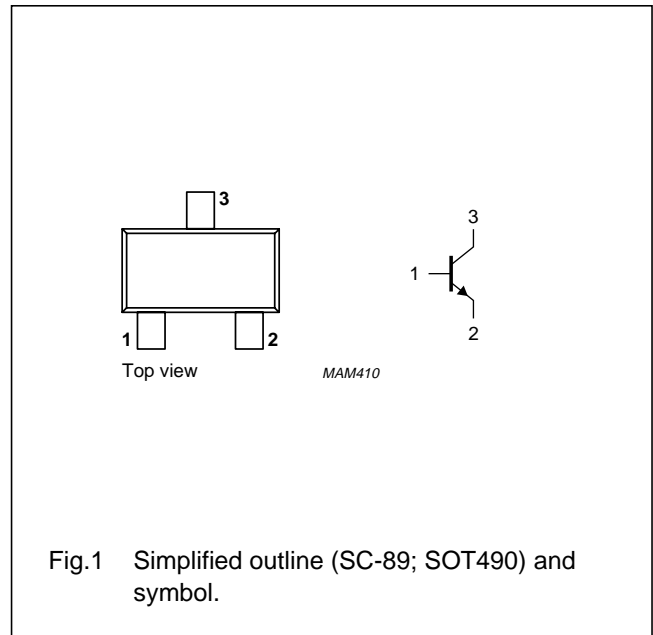
NPN transistor encapsulated in an ultra small plastic SMD SC-89 (SOT490) package.  
PNP complement: 2PA1774J.

### MARKING

TYPE NUMBER	MARKING CODE
2PC4617QJ	ZQ
2PC4617RJ	ZR
2PC4617SJ	ZS

### PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



### 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		–	200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ }^\circ\text{C}$ ; note 1	–	250	mW
$T_{stg}$	storage temperature		–65	+150	$^\circ\text{C}$
$T_j$	junction temperature		–	150	$^\circ\text{C}$
$T_{amb}$	operating ambient temperature		–65	+150	$^\circ\text{C}$

### Note

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

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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 2PC4617QJ 2PC4617RJ 2PC4617SJ	$I_C = 1\text{ mA}; V_{CE} = 6\text{ V};$ 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	$I_E = i_e = 0; V_{CB} = 12\text{ V}; f = 1\text{ MHz}$	–	1.5	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:  $t_p \leq 300\ \mu\text{s}; \delta \leq 0.02.$

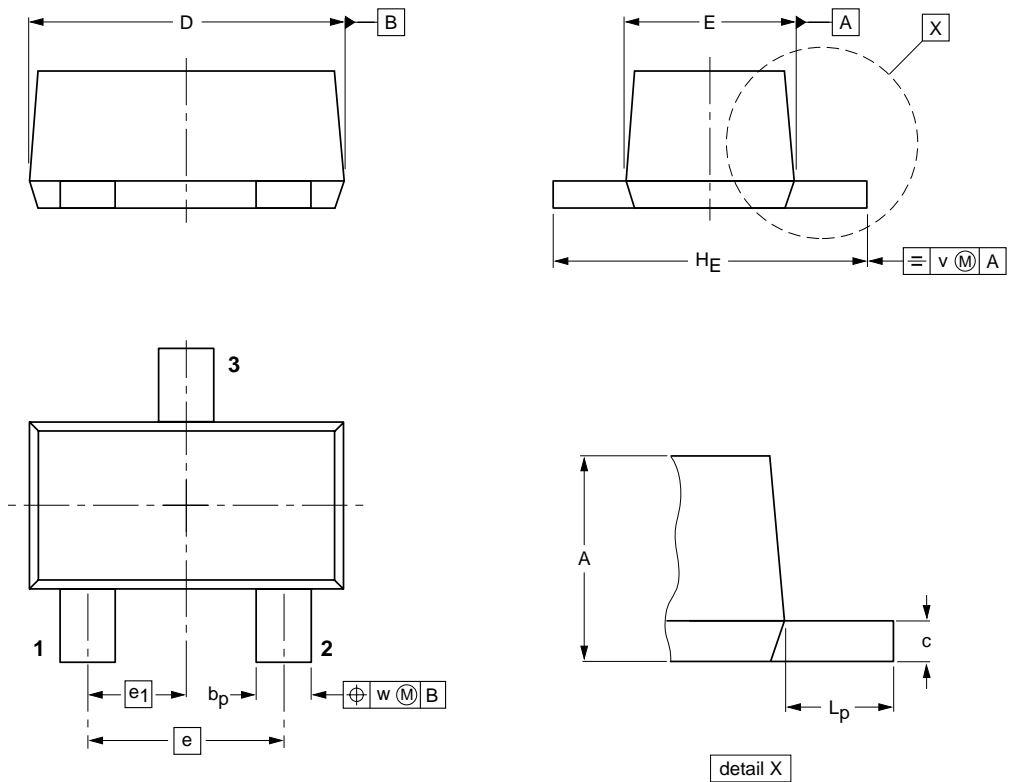
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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT490



DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	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

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DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
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**NOTES**

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**NOTES**

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