

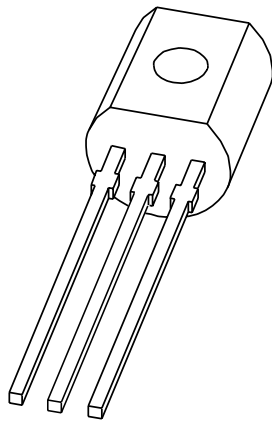
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# DATA SHEET



**2PA1015**

**PNP general purpose transistor**

Product specification  
Supersedes data of 1999 Apr 08

2004 Oct 11

# PNP general purpose transistor

# 2PA1015

### FEATURES

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

### APPLICATIONS

- General purpose switching and amplification.

### DESCRIPTION

PNP transistor in a plastic TO-92; SOT54 package.  
NPN complement: 2PC1815.

### PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter

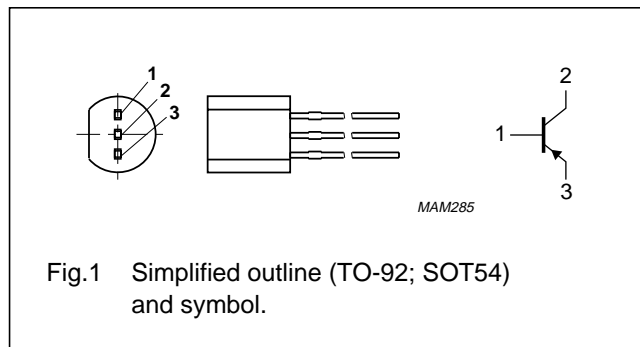


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
2PA1015Y	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54
2PA1015GR			

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter	–	–50	V
V <sub>CEO</sub>	collector-emitter voltage	open base	–	–50	V
V <sub>EBO</sub>	emitter-base voltage	open collector	–	–5	V
I <sub>C</sub>	collector current (DC)		–	–150	mA
I <sub>CM</sub>	peak collector current		–	–200	mA
I <sub>BM</sub>	peak base current		–	–200	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	–	500	mW
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	150	°C
T <sub>amb</sub>	ambient temperature		–65	+150	°C

### Note

1. Transistor mounted on an FR4 printed-circuit board.

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## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	250	K/W

## Note

1. Transistor mounted on an FR4 printed-circuit board.

## CHARACTERISTICS

$T_j = 25\text{ }^\circ\text{C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -50\text{ V}; I_E = 0\text{ A}$	–	–	–100	nA
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -5\text{ V}; I_C = 0\text{ A}$	–	–	–100	nA
$h_{FE}$	DC current gain 2PA1015Y 2PA1015GR	$V_{CE} = -6\text{ V}; I_C = -2\text{ mA}$	120 200	– –	240 400	
$h_{FE}$	DC current gain	$V_{CE} = -6\text{ V}; I_C = -150\text{ mA}$	25	–	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -10\text{ mA}$	–	–	–300	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -10\text{ mA}$	–	–	–1.1	V
$C_c$	collector capacitance	$V_{CB} = -10\text{ V}; I_E = i_e = 0\text{ A}; f = 1\text{ MHz}$	–	4	7	pF
$f_T$	transition frequency	$V_{CB} = -10\text{ V}; I_C = -1\text{ mA}; f = 100\text{ MHz}$	80	–	–	MHz
F	noise figure	$V_{CE} = -5\text{ V}; I_C = -200\text{ }\mu\text{A}; R_S = 2\text{ k}\Omega;$ $f = 1\text{ kHz}; B = 200\text{ Hz}$	–	–	10	dB

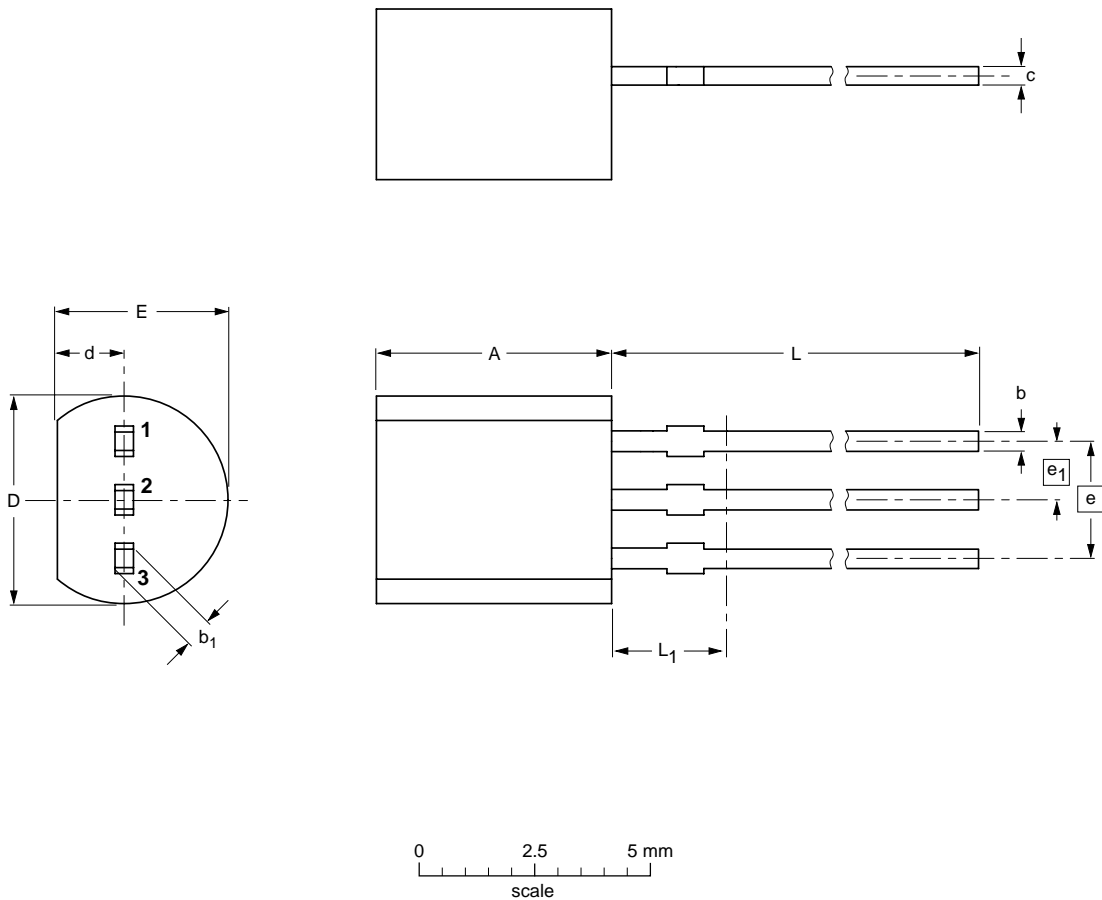
PNP general purpose transistor

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PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads

SOT54



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	b	b <sub>1</sub>	c	D	d	E	e	e <sub>1</sub>	L	L <sub>1</sub> <sup>(1)</sup> max.
mm	5.2 5.0	0.48 0.40	0.66 0.55	0.45 0.38	4.8 4.4	1.7 1.4	4.2 3.6	2.54	1.27	14.5 12.7	2.5

**Note**

1. Terminal dimensions within this zone are uncontrolled to allow for flow of plastic and terminal irregularities.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
SOT54		TO-92	SC-43A		<del>97-02-28</del> 04-06-28

## PNP general purpose transistor

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Printed in The Netherlands

R75/04/pp6

Date of release: 2004 Oct 11

Document order number: 9397 750 13557

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