

# DATA SHEET



**MPSA56**

**PNP general purpose transistor**

Product data sheet  
Supersedes data of 1999 Apr 27

2004 Dec 13

# PNP general purpose transistor

# MPSA56

### FEATURES

- Low current (max. 500 mA)
- Low voltage (max. 80 V).

### APPLICATIONS

- General purpose switching and amplification.

### DESCRIPTION

PNP transistor in a TO-92; SOT54 plastic package.  
NPN complement: MPSA06.

### PINNING

PIN	DESCRIPTION
1	collector
2	base
3	emitter

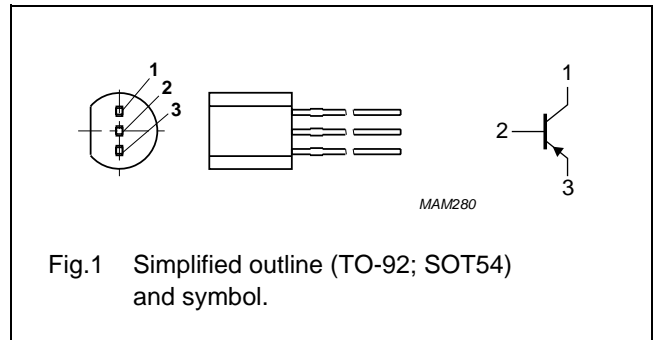


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

### ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
MPSA56	SC-43A	plastic single-ended leaded (through hole) package; 3 leads	SOT54

### 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	–	–80	V
$V_{CEO}$	collector-emitter voltage	open base	–	–80	V
$V_{EBO}$	emitter-base voltage	open collector	–	–5	V
$I_C$	collector current (DC)		–	–500	mA
$I_{CM}$	peak collector current		–	–1	A
$I_{BM}$	peak base current		–	–200	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$ ; note 1	–	625	mW
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	150	°C
$T_{amb}$	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	200	K/W

## Note

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

## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -80\text{ V}; I_E = 0\text{ A}$	–	–50	nA
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -5\text{ V}; I_C = 0\text{ A}$	–	–50	nA
$h_{FE}$	DC current gain	$V_{CE} = -1\text{ V}; I_C = -10\text{ mA}$	100	–	
		$V_{CE} = -1\text{ V}; I_C = -100\text{ mA}$	100	–	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -100\text{ mA}; I_B = -10\text{ mA}$	–	–250	mV
$V_{BE}$	base-emitter voltage	$V_{CE} = -1\text{ V}; I_C = -100\text{ mA}$	–	–1.2	V
$f_T$	transition frequency	$V_{CE} = -1\text{ V}; I_C = -100\text{ mA}; f = 100\text{ MHz}$	50	–	MHz

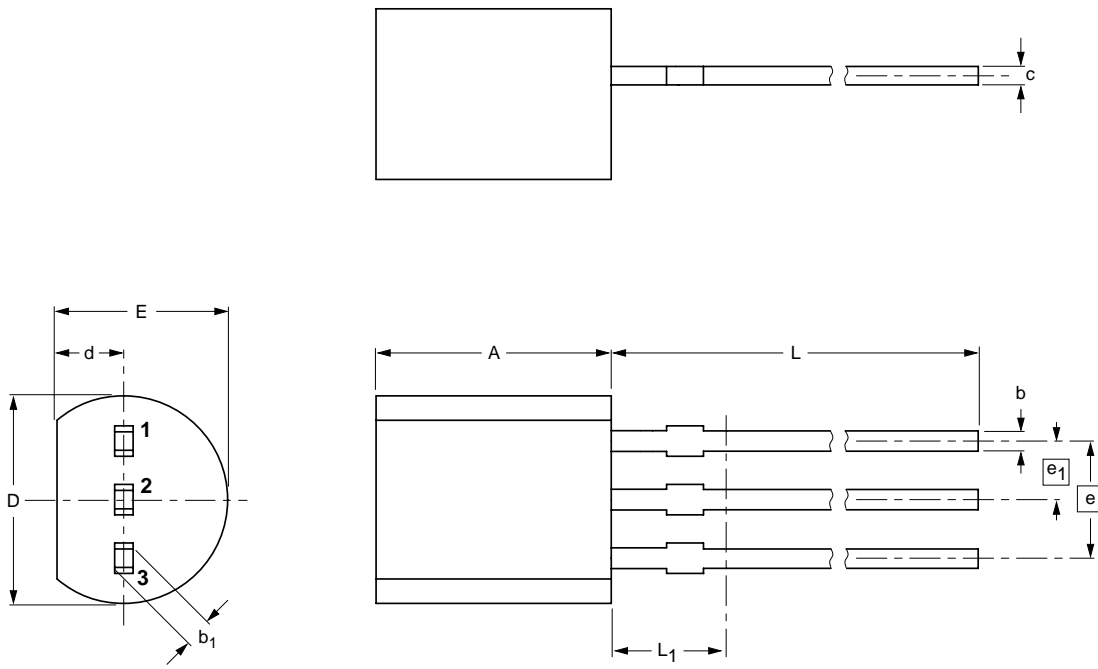
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PACKAGE OUTLINE

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		04-06-28 04-11-16

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DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

Notes

1. Please consult the most recently issued document before initiating or completing a design.
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## **Contact information**

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