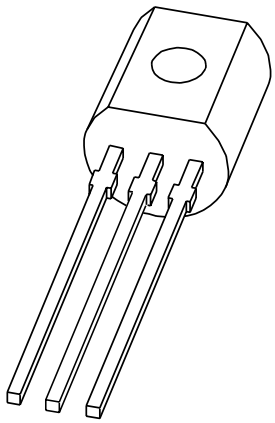
DATA SHEET



MPSA06
NPN general purpose transistor

Product specification
Supersedes data of 1999 Apr 27

2004 Oct 11

Philips
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NPN general purpose transistor MPSA06

FEATURES

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

APPLICATIONS

- General purpose switching and amplification.

DESCRIPTION

NPN transistor in a TO-92; SOT54 plastic package.
PNP complement: MPSA56.

PINNING

PIN	DESCRIPTION
1	collector
2	base
3	emitter

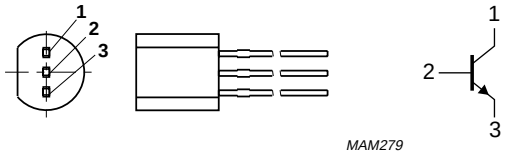


Fig.1 Simplified outline (TO-92; SOT54) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
MPSA06	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	$T_{amb} \leq 25$ °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.

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.

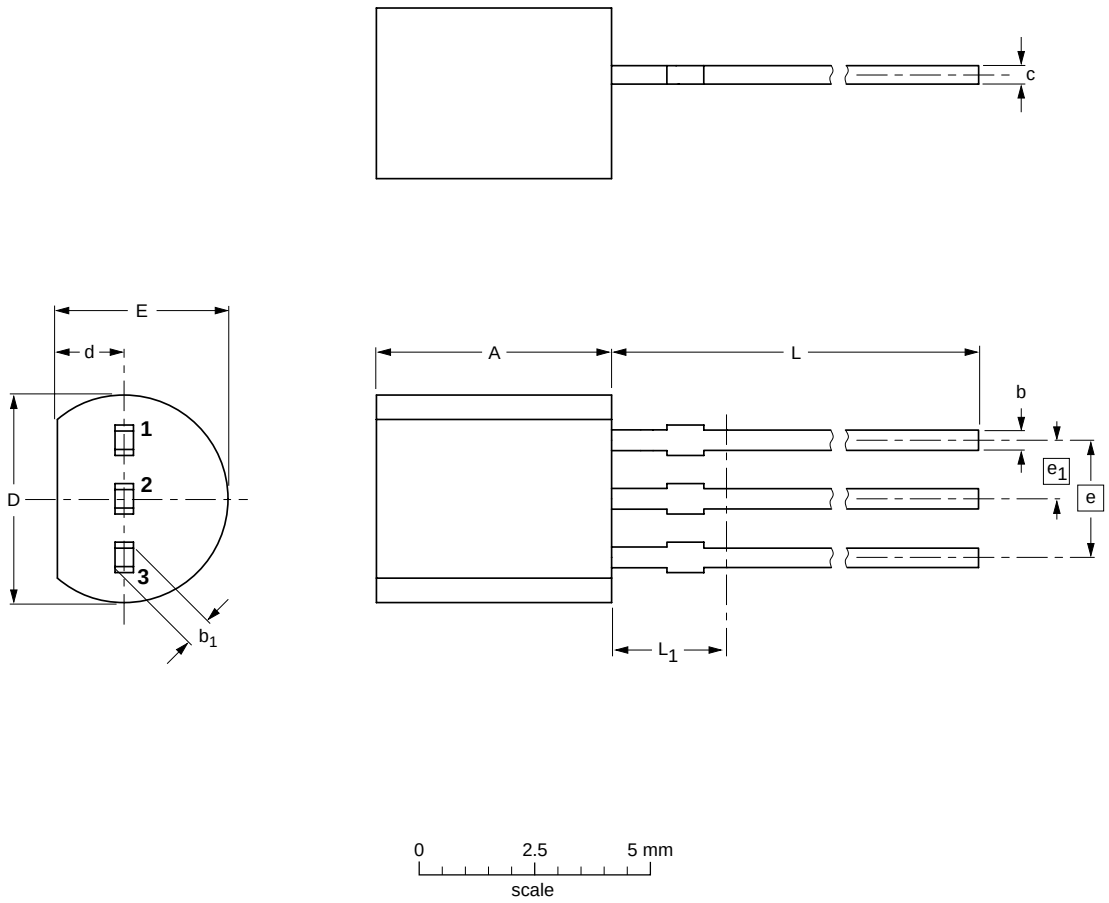
CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector-base cut-off current	V_{CB} = 80 V; I_E = 0 A	–	50	nA
I_{EBO}	emitter-base cut-off current	V_{EB} = 5 V; I_C = 0 A	–	50	nA
h_{FE}	DC current gain	V_{CE} = 1 V; I_C = 10 mA	100	–	
		V_{CE} = 1 V; I_C = 100 mA	100	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = 100 mA; I_B = 10 mA	–	250	mV
V_{BE}	base-emitter voltage	V_{CE} = 1 V; I_C = 100 mA	–	1.2	V
f_T	transition frequency	V_{CE} = 2 V; I_C = 10 mA; f = 100 MHz	100	–	MHz

PACKAGE OUTLINE

Plastic single-ended leaded (through hole) package; 3 leads **SOT54**



DIMENSIONS (mm are the original dimensions)

UNIT	A	b	b_1	c	D	d	E	e	e_1	L	L_1 (1) 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			~~97-02-28~~ 04-06-28

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS(1)	PRODUCT STATUS(2)(3)	DEFINITION
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