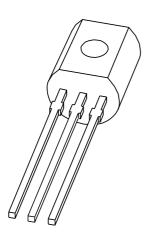
DISCRETE SEMICONDUCTORS

DATA SHEET



MPSA06 NPN general purpose transistor

Product specification Supersedes data of 1999 Apr 27 2004 Oct 11





NPN general purpose transistor

MPSA06

FEATURES

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

APPLICATIONS

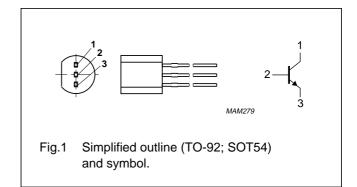
• General purpose switching and amplification.

DESCRIPTION

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

PINNING

PIN	DESCRIPTION			
1	collector			
2	base			
3	emitter			



ORDERING INFORMATION

TYPE NUMBER		PACKAGE				
I TPE NOWIDER	NAME DESCRIPTION VERSI					
MPSA06	SC-43A	3A plastic single-ended leaded (through hole) package; 3 leads				

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	Α
I _{BM}	peak base current		_	200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	_	625	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	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 °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

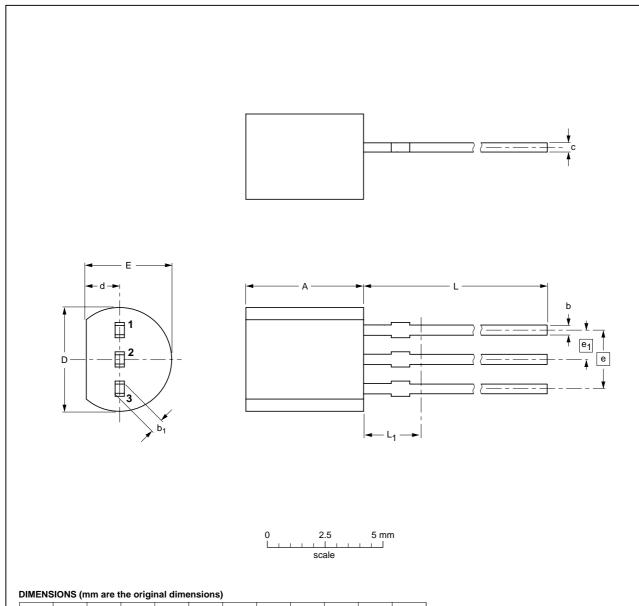
NPN general purpose transistor

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PACKAGE OUTLINE

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

SOT54



UNIT	A	b	b ₁	С	D	d	E	е	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		REFER	EUROPEAN	ISSUE DATE	
VERSION	IEC JEDEC JEITA PROJECTION		ISSUE DATE		
SOT54		TO-92	SC-43A		97-02-28 04-06-28

NPN general purpose transistor

MPSA06

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS(2)(3)	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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Notes

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DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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