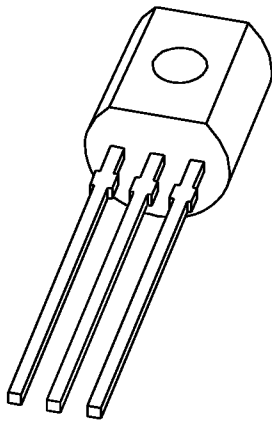


DATA SHEET



MPSA55; MPSA56 PNP general purpose transistors

Product specification
Supersedes data of 1997 Mar 27
File under Discrete Semiconductors, SC04

1998 Jul 21

PNP general purpose transistors

MPSA55; 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 complements: MPSA05 and MPSA06.

PINNING

PIN	DESCRIPTION
1	collector
2	base
3	emitter

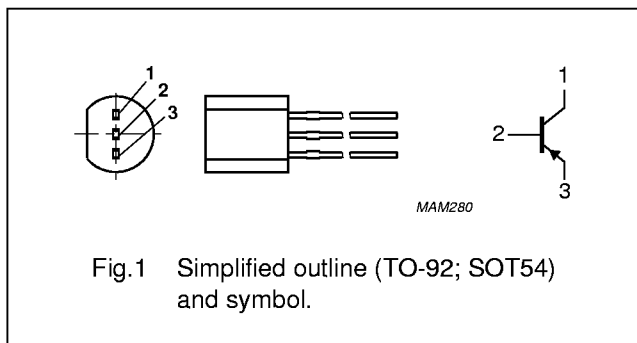


Fig. 1 Simplified outline (TO-92; SOT54) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter	-	-60	V
	MPSA55			-80	V
V _{CEO}	collector-emitter voltage	open base	-	-60	V
	MPSA56			-80	V
I _{CM}	peak collector current		-	-1	A
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C	-	625	mW
h _{FE}	DC current gain	I _C = -100 mA; V _{CE} = -1 V	100	-	
f _T	transition frequency	I _C = -100 mA; V _{CE} = -1 V; f = 100 MHz	50	-	MHz

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LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter			
	MPSA55		–	–60	V
	MPSA56		–	–80	V
V _{CEO}	collector-emitter voltage	open base			
	MPSA55		–	–60	V
	MPSA56		–	–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} ≤ 25 °C; note 1	–	625	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating 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_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I _{CBO}	collector cut-off current				
	MPSA55	I _E = 0; V _{CB} = –60 V	–	–50	nA
	MPSA56	I _E = 0; V _{CB} = –80 V	–	–50	nA
I _{EBO}	emitter cut-off current	I _C = 0; V _{EB} = –5 V	–	–50	nA
h _{FE}	DC current gain	I _C = –10 mA; V _{CE} = –1 V	100	–	
		I _C = –100 mA; V _{CE} = –1 V	100	–	
V _{CEsat}	collector-emitter saturation voltage	I _C = –100 mA; I _B = –10 mA	–	–250	mV
V _{BE}	base-emitter voltage	I _C = –100 mA; V _{CE} = –1 V	–	–1.2	V
f _T	transition frequency	I _C = –100 mA; V _{CE} = –1 V; f = 100 MHz	50	–	MHz

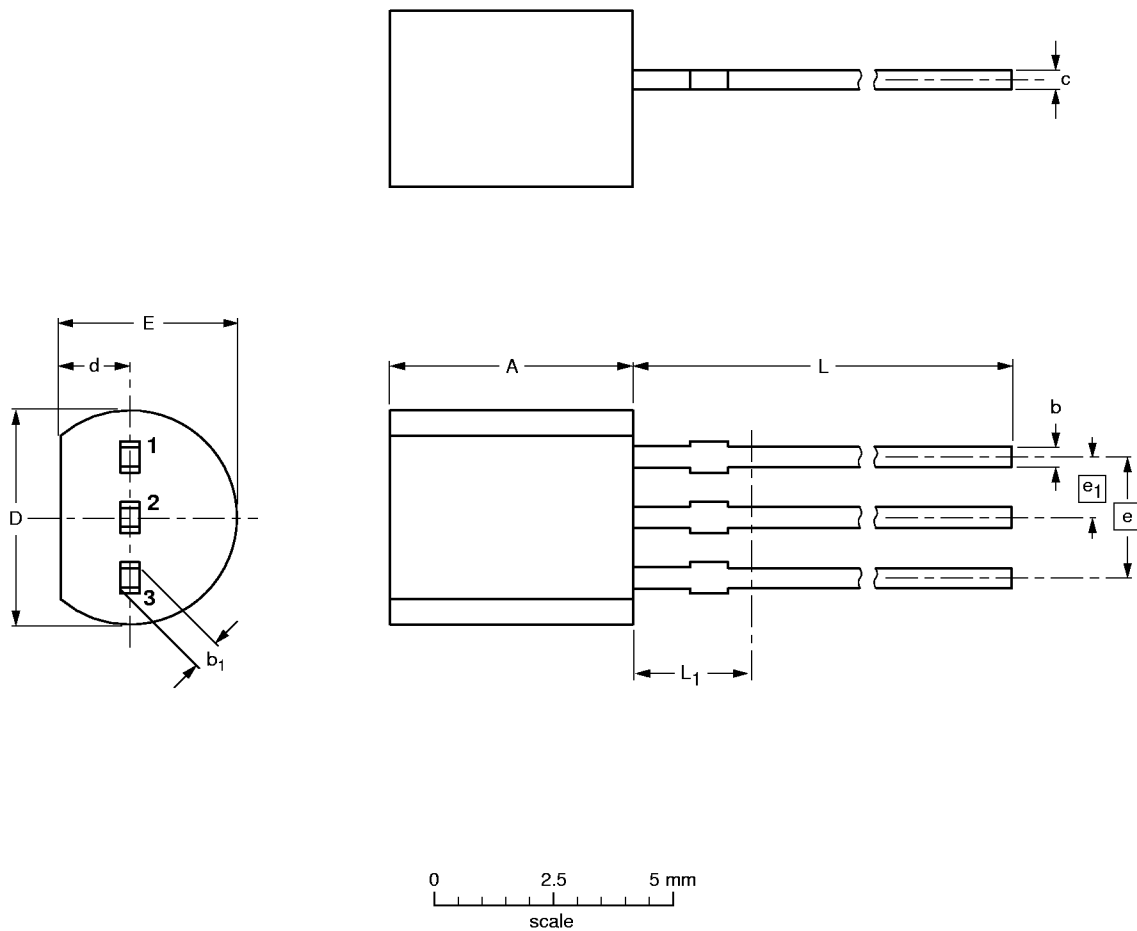
PNP general purpose transistors

MPSA55; MPSA56

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)
mm	5.2 5.0	0.48 0.40	0.66 0.56	0.45 0.40	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	EIAJ		
SOT54		TO-92	SC-43		97-02-28