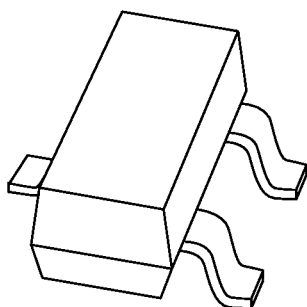


DATA SHEET



PMBTA55; PMBTA56 PNP general purpose transistors

Product specification

1997 Apr 22

Supersedes data of September 1994

File under Discrete Semiconductors, SC04

PNP general purpose transistors

PMBTA55; PMBTA56

FEATURES

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

APPLICATIONS

- General purpose switching and amplification, e.g. telephony and professional communication equipment.

DESCRIPTION

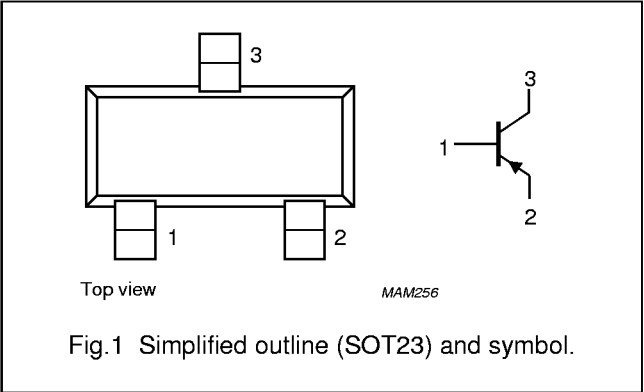
PNP transistor in a SOT23 plastic package.
NPN complement: PMBTA06.

MARKING

TYPE NUMBER	MARKING CODE
PMBTA55	p2H
PMBTA56	p2G

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	—	—	—
	PMBTA55		—	–60	V
	PMBTA56		—	–80	V
V_{CEO}	collector-emitter voltage	open base	—	—	—
	PMBTA55		—	–60	V
	PMBTA56		—	–80	V
I_{CM}	peak collector current		—	–1	A
P_{tot}	total power dissipation	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$	—	250	mW
h_{FE}	DC current gain	$I_C = -100\text{ mA}$; $V_{CE} = -1\text{ V}$	100	—	—
f_T	transition frequency	$I_C = -100\text{ mA}$; $V_{CE} = -1\text{ V}$; $f = 100\text{ MHz}$	50	—	MHz

PNP general purpose transistors

PMBTA55; PMBTA56

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			
	PMBTA55		–	–60	V
	PMBTA56		–	–80	V
V_{CEO}	collector-emitter voltage	open base			
	PMBTA55		–	–60	V
	PMBTA56		–	–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	–	250	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	500	K/W

Note

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

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current				
	PMBTA55	$I_E = 0$; $V_{CB} = -60\text{ V}$	–	–50	nA
	PMBTA56	$I_E = 0$; $V_{CB} = -80\text{ V}$	–	–50	nA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = -5\text{ V}$	–	–50	nA
h_{FE}	DC current gain	$I_C = -10\text{ mA}$; $V_{CE} = -1\text{ V}$	100	–	
		$I_C = -100\text{ mA}$; $V_{CE} = -1\text{ V}$	100	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = -100\text{ mA}$; $I_B = -10\text{ mA}$	–	–250	mV
V_{BE}	base-emitter voltage	$I_C = -100\text{ mA}$; $V_{CE} = -1\text{ V}$	–	–1.2	V
f_T	transition frequency	$I_C = -100\text{ mA}$; $V_{CE} = -1\text{ V}$; $f = 100\text{ MHz}$	50	–	MHz

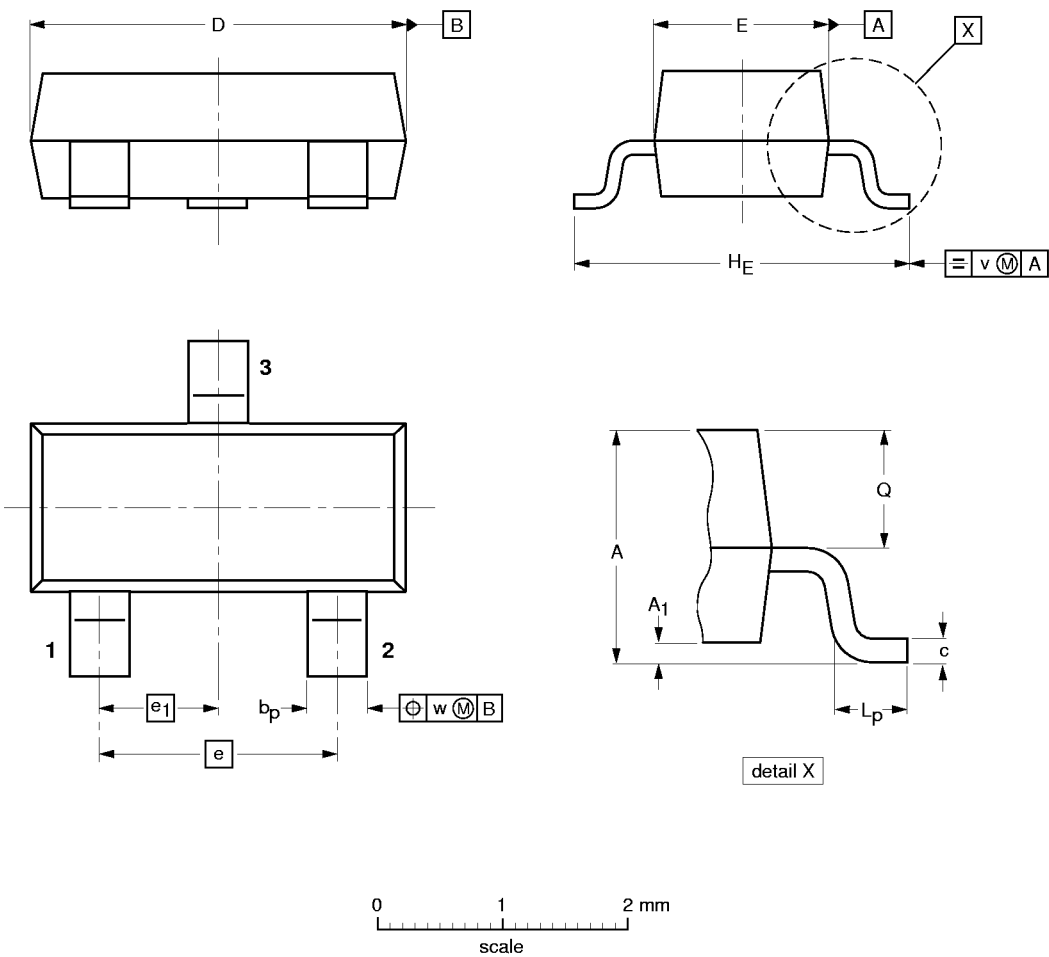
PNP general purpose transistors

PMBTA55; PMBTA56

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23						97-02-28