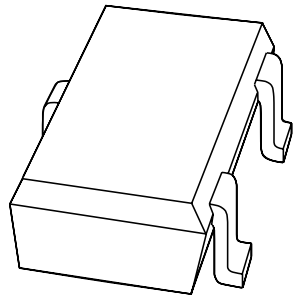
DATA SHEET



PMSTA55; PMSTA56
PNP general purpose transistors

Product specification
File under Discrete Semiconductors, SC04

1997 Jun 02

Philips
Semiconductors

PHILIPS

PNP general purpose transistors PMSTA55; PMSTA56

FEATURES

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

APPLICATIONS

- Intended for telephony and professional communication equipment.

DESCRIPTION

PNP transistor in a SOT323 plastic package.
NPN complements: PMSTA05 and PMSTA06.

MARKING

TYPE NUMBER	MARKING CODE
PMSTA55	t2H
PMATA56	t2G

PINNING

PIN	DESCRIPTION
1	base
2	emitter
3	collector

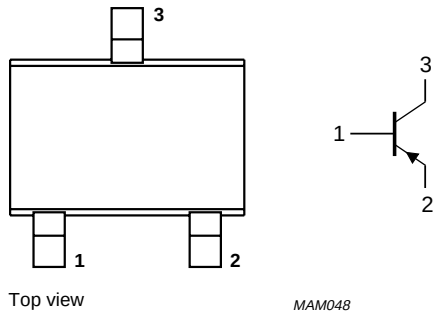


Fig.1 Simplified outline (SOT323) and symbol.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter			
	PMSTA55		–	–60	V
	PMSTA56		–	–80	V
V_{CEO}	collector-emitter voltage	open base			
	PMSTA55		–	–60	V
	PMSTA56		–	–80	V
I_{CM}	peak collector current		–	–500	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	–	200	mW
h_{FE}	DC current gain	$I_C = -100$ mA; $V_{CE} = -1$ V	50	–	
f_T	transition frequency	$I_C = -100$ mA; $V_{CE} = -1$ V	50	–	MHz

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			
	PMSTA55		–	–60	V
	PMSTA56		–	–80	V
V_{CEO}	collector-emitter voltage	open base			
	PMSTA55		–	–60	V
	PMSTA56		–	–80	V
V_{EBO}	emitter-base voltage	open collector	–	–4	V
I_C	collector current (DC)		–	–500	mA
I_{CM}	peak collector current		–	–500	mA
I_{BM}	peak base current		–	–500	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	200	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
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	625	K/W

Note

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

CHARACTERISTICS

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

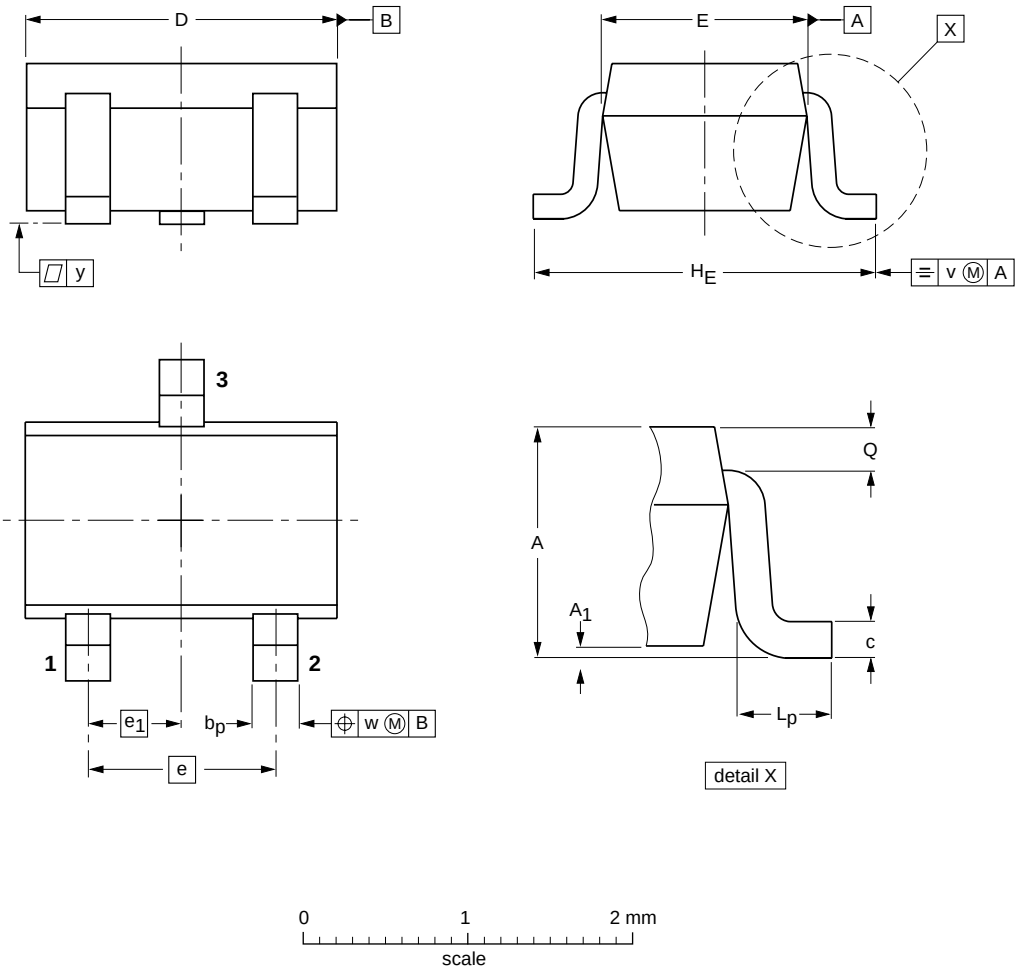
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current				
	PMSTA55	$I_E = 0$; $V_{CB} = –60$ V	–	–100	nA
	PMSTA56	$I_E = 0$; $V_{CB} = –80$ V	–	–100	nA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = –4$ V	–	–500	nA
h_{FE}	DC current gain	$I_C = –10$ mA; $V_{CE} = –1$ V	50	–	
		$I_C = –100$ mA; $V_{CE} = –1$ V; note 1	50	–	
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; note 1	–	–1.2	mV
f_T	transition frequency	$I_C = –100$ mA; $V_{CE} = –1$ V; f = 100 MHz	50	–	MHz

Note

1. Pulse test: $t_p \leq 300$ μs; $\delta \leq 0.02$.

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT323**



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 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT323			SC-70			97-02-28

DEFINITIONS

Data Sheet Status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

NOTES

NOTES

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