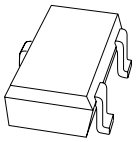


PMSTA55; PMSTA56

500 mA PNP general-purpose transistors

Rev. 05 — 1 February 2010 Product data sheet

1. Product profile

1.1 General description

PNP transistors in a SOT323 (SC-70) very small Surface-Mounted Device (SMD) plastic package.

Table 1. Product overview

Type number	Package		NPN complement
	NXP	JEITA	
PMSTA55	SOT323	SC-70	PMSTA05
PMSTA56			PMSTA06

1.2 Features

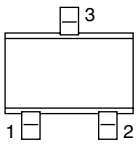
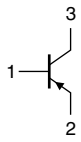
- High current (max. 500 mA)
- Collector-emitter voltage:
  - 60 V (PMSTA55)
  - 80 V (PMSTA56)

1.3 Applications

- Intended for telephony and professional communication equipment.

2. Pinning information

Table 2. Pinning

Pin	Description	Simplified outline	Graphic symbol
1	base		
2	emitter		
3	collector		

006aab25

3. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PMSTA55	SC-70	plastic surface-mounted package; 3 leads	SOT323
PMSTA56			

4. Marking

Table 4. Marking codes

Type number	Marking code[1]
PMSTA55	*2H
PMSTA56	*2G

[1] * = -: made in Hong Kong
* = p: made in Hong Kong
* = t: made in Malaysia
* = W: made in China

5. Limiting values

Table 5. 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				
	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			-	–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	[1]	-	200	mW
T_j	junction temperature			-	150	°C
T_{amb}	ambient temperature			–65	+150	°C
T_{stg}	storage temperature			–65	+150	°C

[1] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

6. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient	in free air	[1]	-	-	625	K/W

[1] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

7. Characteristics

Table 7. Characteristics

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

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
I_{CBO}	collector-base cut-off current						
	PMSTA55	V_{CB} = –60 V; I_E = 0 A		-	-	–100	nA
	PMSTA56	V_{CB} = –80 V; I_E = 0 A		-	-	–100	nA
I_{EBO}	emitter-base cut-off current	V_{EB} = –4 V; I_C = 0 A		-	-	–500	nA
h_{FE}	DC current gain	V_{CE} = –1 V; I_C = –10 mA		100	-	-	
		V_{CE} = –1 V; I_C = –100 mA	[1]	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	mV
f_T	transition frequency	V_{CE} = –1 V; I_C = –100 mA; f = 100 MHz		50	-	-	MHz

[1] Pulse test: $t_p \leq 300\ \mu s$; $\delta \leq 0.02$.

8. Package outline

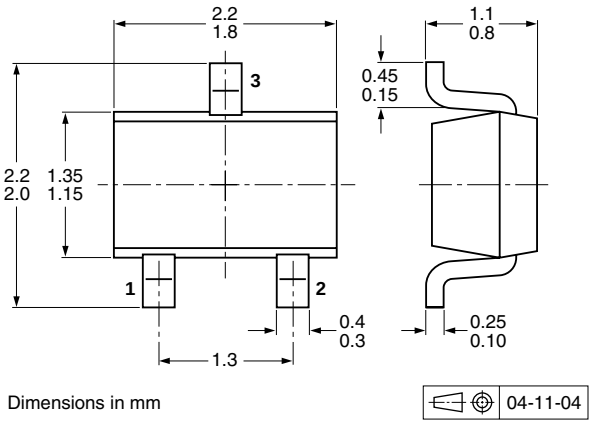


Fig 1. Package outline SOT323 (SC-70)

9. Packing information

Table 8. Packing methods

The indicated -xxx are the last three digits of the 12NC ordering code.[1]

Type number	Package	Description	Packing quantity	
			3000	10000
PMSTA55	SOT323	4 mm pitch, 8 mm tape and reel	-115	-135
PMSTA56				

[1] For further information and the availability of packing methods, see Section 12.

10. Revision history

Table 9. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
PMSTA55_56_5	20100201	Product data sheet	-	PMSTA55_56_N_4
Modifications:	• The format of this data sheet has been redesigned to comply with the new identity guidelines of NXP Semiconductors. • Legal texts have been adapted to the new company name where appropriate. • Section 1 “Product profile”: amended • Table 2 “Pinning”: amended • Section 3 “Ordering information”: added • Section 4 “Marking”: amended • Figure 1: superseded by minimized package outline drawing • Section 9 “Packing information”: added • Section 11 “Legal information”: updated			
PMSTA55_56_N_4	20080117	Product data sheet	-	PMSTA55_56_3
PMSTA55_56_3	19990422	Product specification	-	PMSTA55_56_2
PMSTA55_56_2	19980721	Product specification	-	PMSTA55_56_1
PMSTA55_56_1	19970602	Product specification	-	-

11. Legal information

11.1 Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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13. Contents

1	**Product profile**	**1**
1.1	General description	1
1.2	Features	1
1.3	Applications	1
2	**Pinning information**	**1**
3	**Ordering information**	**2**
4	**Marking**	**2**
5	**Limiting values**	**2**
6	**Thermal characteristics**	**3**
7	**Characteristics**	**3**
8	**Package outline**	**4**
9	**Packing information**	**4**
10	**Revision history**	**5**
11	**Legal information**	**6**
11.1	Data sheet status	6
11.2	Definitions	6
11.3	Disclaimers	6
11.4	Trademarks	6
12	**Contact information**	**7**
13	**Contents**	**8**

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