Product data sheet

1. General description

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

NPN complement: PMSTA42

2. Features and benefits

- Very small package
- High voltage
- · AEC-Q101 qualified

3. Applications

Primarily intended for use in telephony and professional communication equipment.

4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
V _{CEO}	collector-emitter voltage	open base	-	-	-300	V
I _C	collector current		-	-	-100	mA
h _{FE}	DC current gain	$V_{CE} = -10 \text{ V}; I_{C} = -30 \text{ mA}$	30	-	-	

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	В	base	☐ ³	C
2	Е	emitter		в
3	С	collector		
			SC-70 (SOT323)	E sym132



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6. Ordering information

Table 3. Ordering information

Type number	Package						
	Name	Description	Version				
PMSTA92	SC-70	plastic surface-mounted package; 3 leads	SOT323				

7. Marking

Table 4. Marking codes

Type number	Marking code[1]
PMSTA92	%2D

^{[1] % =} placeholder for manufacturing site code

8. 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		-	-300	V
V _{CEO}	collector-emitter voltage	open base		-	-300	V
V _{EBO}	emitter-base voltage	open collector		-	-5	V
I _C	collector current			-	-100	mA
I _{CM}	peak collector current	single pulse; t _p ≤ 1 ms		-	-200	mA
I _{BM}	peak base current			-	-100	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C	[1]	-	200	mW
Tj	junction temperature			-	150	°C
T _{amb}	ambient temperature			-65	150	°C
T _{stg}	storage temperature			-65	150	°C

^[1] Refer to SOT323 (SC-70) standard mounting conditions.

9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Тур	Max	Unit
11() 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.

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10. Characteristics

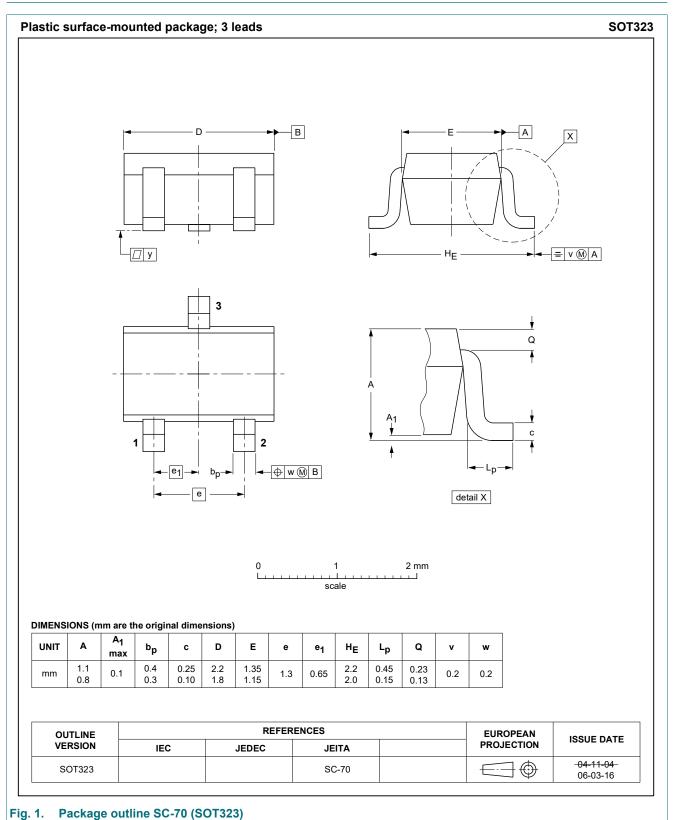
Table 7. Characteristics

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

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
I _{CBO}	collector-base cut-off current	V _{CB} = -200 V; I _E = 0 A	-	-	-100	nA
I _{EBO}	emitter-base cut-off current	V _{EB} = -3 V; I _C = 0 A	-	-	-100	nA
h _{FE}	DC current gain	V _{CE} = -10 V; I _C = -1 mA	40	-	-	
		V _{CE} = -10 V; I _C = -10 mA	40	-	-	
		V _{CE} = -10 V; I _C = -30 mA	30	-	-	
V _{CEsat}	collector-emitter saturation voltage	I_C = -20 mA; I_B = -2 mA; pulsed; t_p ≤ 300 μs; δ ≤ 0.02; T_{amb} = 25 °C	-	-	-250	mV
V _{BEsat}	base-emitter saturation voltage		-	-	-900	mV
C _c	collector capacitance	$V_{CB} = -20 \text{ V}; I_E = 0 \text{ A}; i_e = 0 \text{ A};$ f = 1 MHz	-	1.9	3.5	pF
Ce	emitter capacitance	$V_{EB} = -5 \text{ V}; I_C = 0 \text{ A}; i_C = 0 \text{ A}; f = 1 \text{ MHz}$	-	20	-	pF
f _T	transition frequency	V _{CE} = -20 V; I _C = -10 mA; f = 100 MHz	50	-	-	MHz

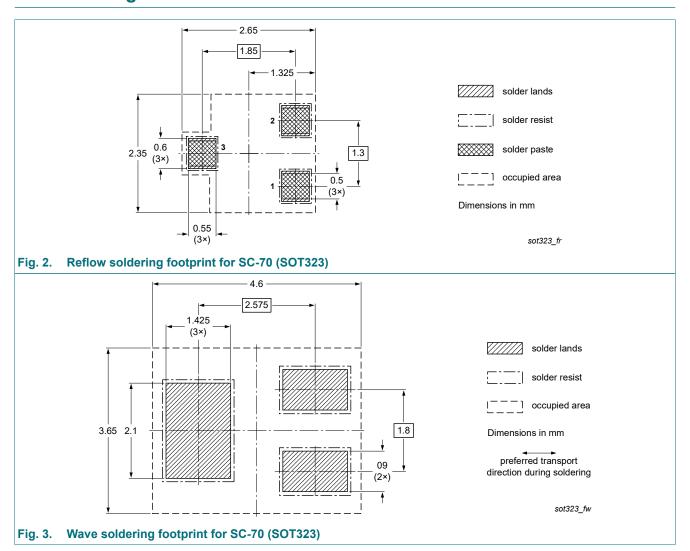
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11. Package outline



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12. Soldering



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13. Revision history

Table 8. Revision history

Table 0. INEVISION III	Story			
Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PMSTA92 v.4	20190516	Product data sheet	-	PMSTA92 v.3
Modifications:	The format of the Nexperia.	ing code corrected this data sheet has been rede ve been adapted to the new c		, ,
PMSTA92 v.3	20010220	Product data sheet	-	PMSTA92_93 v.2
PMSTA92_93 v.2	19990601	Product data sheet	-	PMSTA92_93 v.1
PMSTA92_93 v.1	19961209	Product data sheet	-	-

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14. Legal information

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.

- Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
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