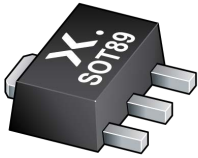




**THE DATASHEET OF  
PXTA92,115**





# PXTA92

300 V, 100 mA PNP high-voltage transistor

Rev. 6 — 27 September 2011

Product data sheet

## 1. Product profile

### 1.1 General description

PNP high-voltage transistor in a medium power and flat lead SOT89 (SC-62) Surface-Mounted Device (SMD) plastic package.

NPN complement: PXTA42.

### 1.2 Features and benefits

- High breakdown voltage
- AEC-Q101 qualified
- Medium power and flat lead SMD plastic package

### 1.3 Applications

- Electronic ballast for fluorescent lighting
- LED driver for LED chain module
- High Intensity Discharge (HID) front lighting
- Automotive motor management
- Hook switch for wired telecom
- Switch Mode Power Supply (SMPS)

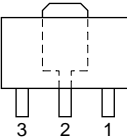
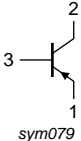
### 1.4 Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_{CEO}$	collector-emitter voltage	open base	-	-	-300	V
$I_C$	collector current		-	-	-100	mA
$I_{CM}$	peak collector current		-	-	-200	mA
$h_{FE}$	DC current gain	$V_{CE} = -10$ V; $I_C = -10$ mA	40	-	-	

## 2. Pinning information

Table 2. Pinning

Pin	Description	Simplified outline	Graphic symbol
1	emitter		 sym079
2	collector		
3	base		

## 3. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PXTA92	SC-62	plastic surface-mounted package; exposed die pad for good heat transfer; 3 leads	SOT89

## 4. Marking

Table 4. Marking codes

Type number	Marking code <sup>[1]</sup>
PXTA92	*2D

[1] \* = placeholder for manufacturing site code

## 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	-	-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		-	-200	mA
$I_{BM}$	peak base current		-	-100	mA
$P_{tot}$	total power dissipation	$T_{amb} \leq 25\text{ °C}$	<sup>[1]</sup> -	1300	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, mounting pad for collector 6 cm<sup>2</sup>.

## 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]	-	96	K/W
$R_{th(j-sp)}$	thermal resistance from junction to solder point		-	-	16	K/W

[1] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for collector 6 cm<sup>2</sup>.

## 7. Characteristics

**Table 7. Characteristics**

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$I_{CBO}$	collector-base cut-off current	$V_{CB} = -200\text{ V}$ ; $I_E = 0\text{ A}$	-	-	-250	nA
$I_{EBO}$	emitter-base cut-off current	$V_{EB} = -3\text{ V}$ ; $I_C = 0\text{ A}$	-	-	-100	nA
$h_{FE}$	DC current gain	$V_{CE} = -10\text{ V}$ ; $I_C = -1\text{ mA}$	25	-	-	
		$V_{CE} = -10\text{ V}$ ; $I_C = -10\text{ mA}$	40	-	-	
		$V_{CE} = -10\text{ V}$ ; $I_C = -30\text{ mA}$	25	-	-	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -20\text{ mA}$ ; $I_B = -2\text{ mA}$	-	-	-500	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -20\text{ mA}$ ; $I_B = -2\text{ mA}$	-	-	-900	mV
$f_T$	transition frequency	$V_{CE} = -20\text{ V}$ ; $I_C = -10\text{ mA}$ ; $f = 100\text{ MHz}$	50	-	-	MHz
$C_c$	collector capacitance	$V_{CB} = -20\text{ V}$ ; $I_E = I_E = 0\text{ A}$ ; $f = 1\text{ MHz}$	-	-	6	pF

## 8. Test information

### 8.1 Quality information

This product has been qualified in accordance with the Automotive Electronics Council (AEC) standard Q101 - *Stress test qualification for discrete semiconductors*, and is suitable for use in automotive applications.

## 9. Package outline

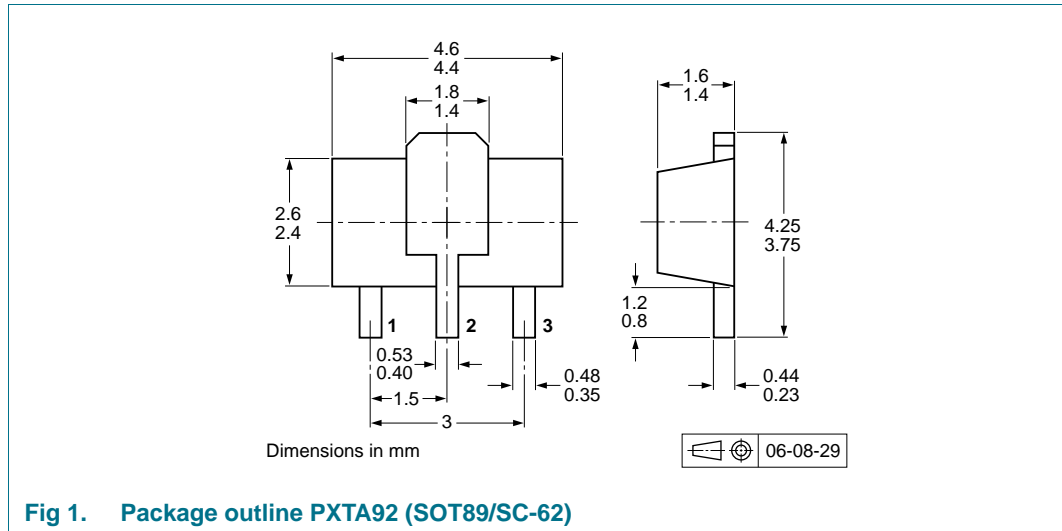


Fig 1. Package outline PXTA92 (SOT89/SC-62)

## 10. Packing information

**Table 8. Packing methods**

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

Type number	Package	Description	Packing quantity	
			1000	4000
PXTA92	SOT89	8 mm pitch, 12 mm tape and reel; T1	<sup>[2]</sup> -115	-135
		8 mm pitch, 12 mm tape and reel; T3	<sup>[3]</sup> -120	-

[1] For further information and the availability of packing methods, see [Section 14](#).

[2] T1: normal taping

[3] T3: 90° taping

## 11. Soldering

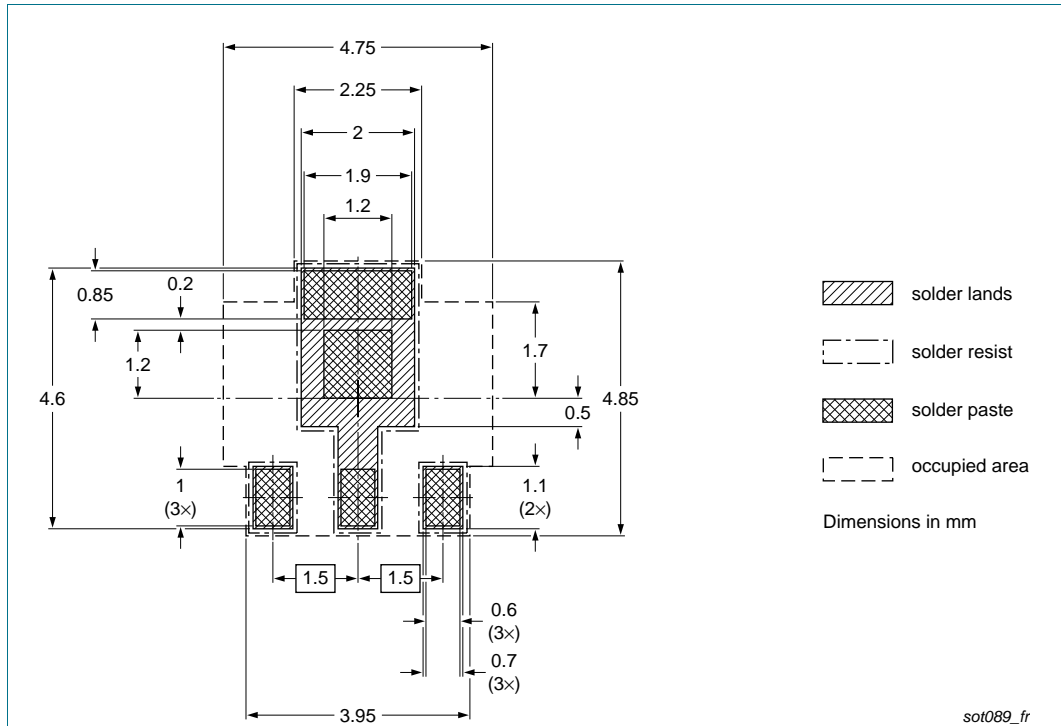


Fig 2. Reflow soldering footprint PXTA92 (SOT89/SC-62)

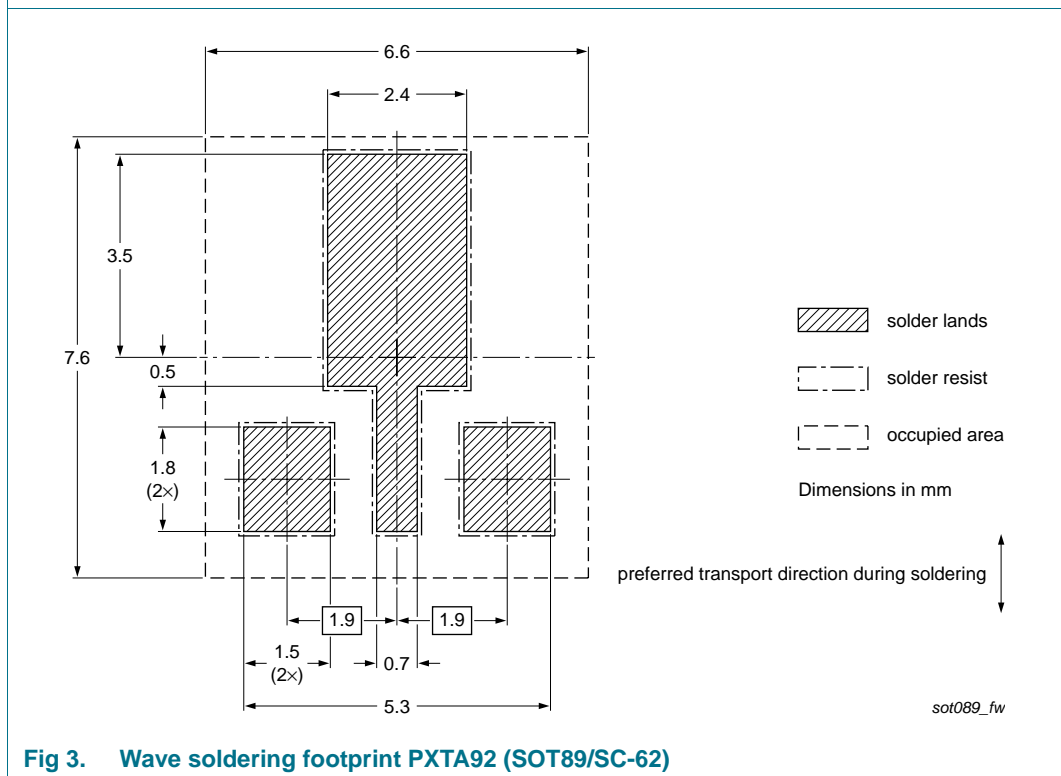


Fig 3. Wave soldering footprint PXTA92 (SOT89/SC-62)

## 12. Revision history

Table 9. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
PXTA92 v.6	20110927	Product data sheet	-	PXTA92 v.5
Modifications:	• Descriptive title corrected			
PXTA92 v.5	20110711	Product data sheet	-	PXTA92 v.4
PXTA92 v.4	20041209	Product specification	-	PXTA92 v.3
PXTA92 v.3	19990429	Product specification	-	PXTA92_93_CNV v.2
PXTA92_93_CNV v.2	19970620	Product specification	-	-

## 13. Legal information

### 13.1 Data sheet status

Document status <sup>[1][2]</sup>	Product status <sup>[3]</sup>	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".

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