



### PNP Medium power transistor

### **General features**

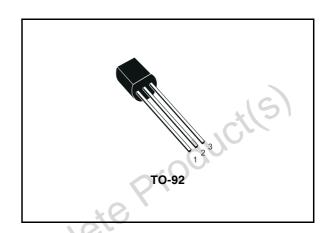
- TO-92 package suitable for through-hole PCB assembly
- In compliance with the 2002/93/EC European Directive

### **Applications**

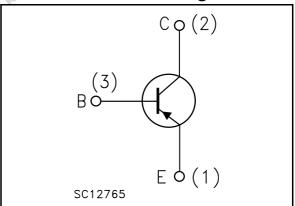
- Voltage regulation
- Relay driver
- Generic switch



The STX817A is a PNP transistor manufactured using Planar Technology resulting in rugged high performance devices.



### Internal schematic diagram



#### **Order codes**

Part Number	Marking	Package	Packing
STX817A	X817A	TO-92	Bulk
STX817A-AP	X817A	TO-92 AP	Ammopack

### **Contents**

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0050	Revision history  Obsolete Production  Obsolete Production	(5)

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STX817A Electrical ratings

# 1 Electrical ratings

Table 1. Absolute maximum rating

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-base voltage (I <sub>E</sub> = 0)	-80	V
V <sub>CEO</sub>	Collector-emitter voltage (I <sub>B</sub> = 0)	-80	V
V <sub>EBO</sub>	Emitter-base voltage (I <sub>C</sub> = 0)	-5	V
I <sub>C</sub>	Collector current	-1.5	Α
I <sub>CM</sub>	Collector peak current (t <sub>P</sub> < 5ms)	-2	А
I <sub>B</sub>	Base current	-0.3	Α
I <sub>BM</sub>	Base peak current (t <sub>P</sub> < 5ms)	-0.6	Α
P <sub>tot</sub>	Total dissipation at T <sub>amb</sub> = 25°C	0.9	W
T <sub>stg</sub>	Storage temperature	-65 to 150	°C
T <sub>J</sub>	Max. operating junction temperature	150	°C

Table 2. Thermal data

	Symbol	Parameter		Value	Unit
	R <sub>thj-amb</sub>	Thermal resistance junction-amb	max	139	°C/W
	*eP	roducti			
Obsole	3				

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Electrical characteristics STX817A

### 2 Electrical characteristics

(T<sub>case</sub> = 25°C unless otherwise specified)

Table 3. Electrical characteristics

Symbol	Parameter	Parameter Test Conditions		Min.	Тур.	Max.	Unit
I <sub>CES</sub>	Collector cut-off current (V <sub>BE</sub> =0)	V <sub>CE</sub> =-80V				-500	μА
I <sub>CEO</sub>	Collector cut-off current (I <sub>B</sub> =0)	V <sub>CE</sub> =-80V				-1 ,	mA
I <sub>EBO</sub>	Emitter cut-off current (I <sub>C</sub> =0)	V <sub>EB</sub> =-5V				-100	μА
V <sub>CEO(sus)</sub> <sup>(1)</sup>	Collector-emitter sustaining voltage (I <sub>B</sub> =0)	I <sub>C</sub> =-10mA		-80	90		V
V <sub>CE(sat)</sub> (1)	Collector-emitter	I <sub>C</sub> =-100mA I <sub>B</sub> =	=-10mA			-0.25	V
▼CE(sat)	saturation voltage	$I_C = -1A$ $I_B =$	=-100mA			-0.5	V
V (1)	Base-emitter saturation	I <sub>C</sub> =-100mA I <sub>B</sub> =	10mA			-1	V
V <sub>BE(sat)</sub> (1)	voltage	$I_C = -1A$ $I_B =$	=-100mA			-1.1	V
		I <sub>C</sub> =-100mA V <sub>CI</sub>	E =-2V	140			
h <sub>FE</sub> <sup>(1)</sup>	DC current gain	I <sub>C</sub> =-500mA V <sub>CI</sub>	<sub>E</sub> =-2V	80			
	.16)	$I_C = -1A$ $V_C$	<sub>E</sub> =- 2V	25			
f <sub>t</sub>	Transition frequency	I <sub>C</sub> =-0.1A V <sub>C</sub>	E =-10V		50		MHz

Note (1) Pulsed duration = 300μs, duty cycle ≤1.5%

### 3 Package mechanical data

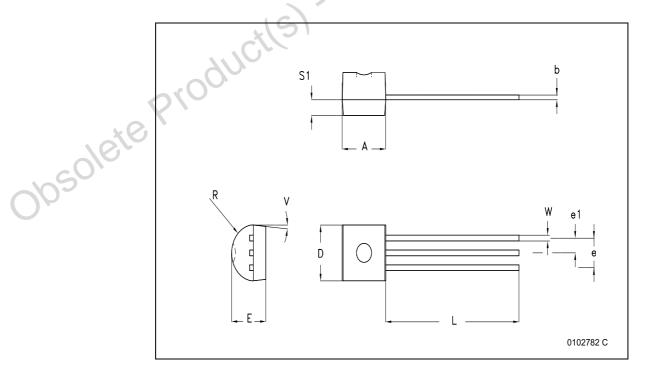
In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect. The category of second level interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com

Obsolete Product(s). Obsolete Product(s)

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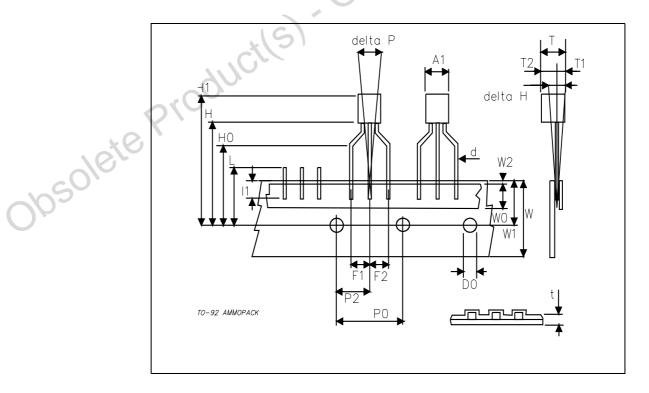
#### **TO-92 BULK SHIPMENT MECHANICAL DATA**

DIM.	mm.				
DIM.	MIN.	TYP	MAX.		
А	4.32		4.95		
b	0.36		0.51		
D	4.45		4.95		
E	3.30		3.94		
е	2.41		2.67		
e1	1.14		1.40		
L	12.70	, C	15.49		
R	2.16	10,10	2.41		
S1	0.92		1.52		
W	0.41	102	0.56		
V		5 °			



### TO-92 AMMOPACK SHIPMENT (Suffix"-AP") MECHANICAL DATA

DIM.	mm.				
DIN.	MIN.	TYP	MAX.		
A1			4.80		
Т			3.80		
T1			1.60		
T2			2.30		
d			0.48		
P0	12.50	12.70	12.90		
P2	5.65	6.35	7.05		
F1,F2	2.44	2.54	2.94		
delta H	-2.00		2.00		
W	17.50	18.00	19.00		
W0	5.70	6.00	6.30		
W1	8.50	9.00	9.25		
W2			0.50		
Н	18.50		20.50		
H0	15.50	16.00	16.50		
H1		20.	25.00		
D0	3.80	4.00	4.20		
t			0.90		
L		<0°	11.00		
I1	3.00	102			
delta P	-1.00		1.00		



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Revision history STX817A

## 4 Revision history

Table 4. Revision history

Date	Revision	Changes
06-July-2004	1	Initial release.
22-Jan-2006	2	The minimum hfe value has been modified on page 4.

Obsolete Product(s). Obsolete Product(s)

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