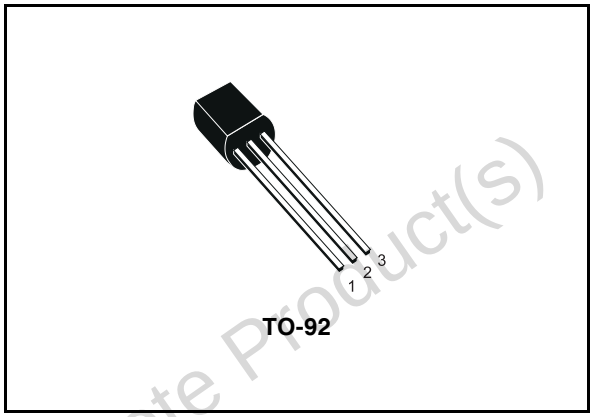
STX817A

PNP Medium power transistor

General features

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



TO-92

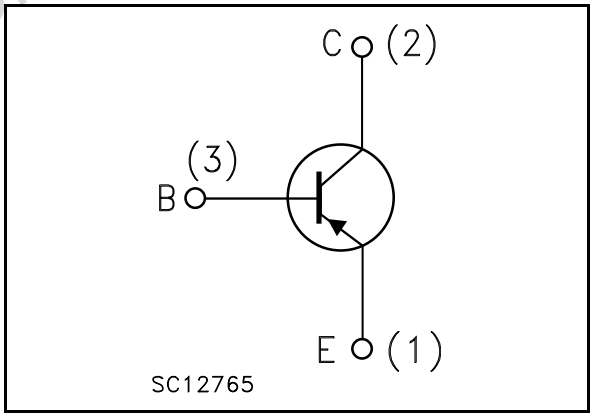
Applications

- Voltage regulation
- Relay driver
- Generic switch

Description

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

1 Electrical ratings

Table 1. Absolute maximum rating

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base voltage (I_E = 0)	-80	V
V_{CEO}	Collector-emitter voltage (I_B = 0)	-80	V
V_{EBO}	Emitter-base voltage (I_C = 0)	-5	V
I_C	Collector current	-1.5	A
I_{CM}	Collector peak current (t_P < 5ms)	-2	A
I_B	Base current	-0.3	A
I_{BM}	Base peak current (t_P < 5ms)	-0.6	A
P_{tot}	Total dissipation at T_{amb} = 25°C	0.9	W
T_{stg}	Storage temperature	-65 to 150	°C
T_J	Max. operating junction temperature	150	°C

Table 2. Thermal data

Symbol	Parameter		Value	Unit
$R_{thj\text{-}amb}$	Thermal resistance junction-amb	max	139	°C/W

2 Electrical characteristics

(T_{case} = 25°C unless otherwise specified)

Table 3. Electrical characteristics

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector cut-off current (V_{BE} =0)	V_{CE} =-80V			-500	µA
I_{CEO}	Collector cut-off current (I_B =0)	V_{CE} =-80V			-1	mA
I_{EBO}	Emitter cut-off current (I_C =0)	V_{EB} =-5V			-100	µA
$V_{CEO(sus)}$ (1)	Collector-emitter sustaining voltage (I_B =0)	I_C =-10mA	-80			V
$V_{CE(sat)}$ (1)	Collector-emitter saturation voltage	I_C =-100mA I_B =-10mA I_C =-1A I_B =-100mA			-0.25 -0.5	V V
$V_{BE(sat)}$ (1)	Base-emitter saturation voltage	I_C =-100mA I_B =-10mA I_C =-1A I_B =-100mA			-1 -1.1	V V
h_{FE} (1)	DC current gain	I_C =-100mA V_{CE} =-2V I_C =-500mA V_{CE} =-2V I_C =-1A V_{CE} =- 2V	140 80 25			
f_t	Transition frequency	I_C =-0.1A V_{CE} =-10V		50		MHz

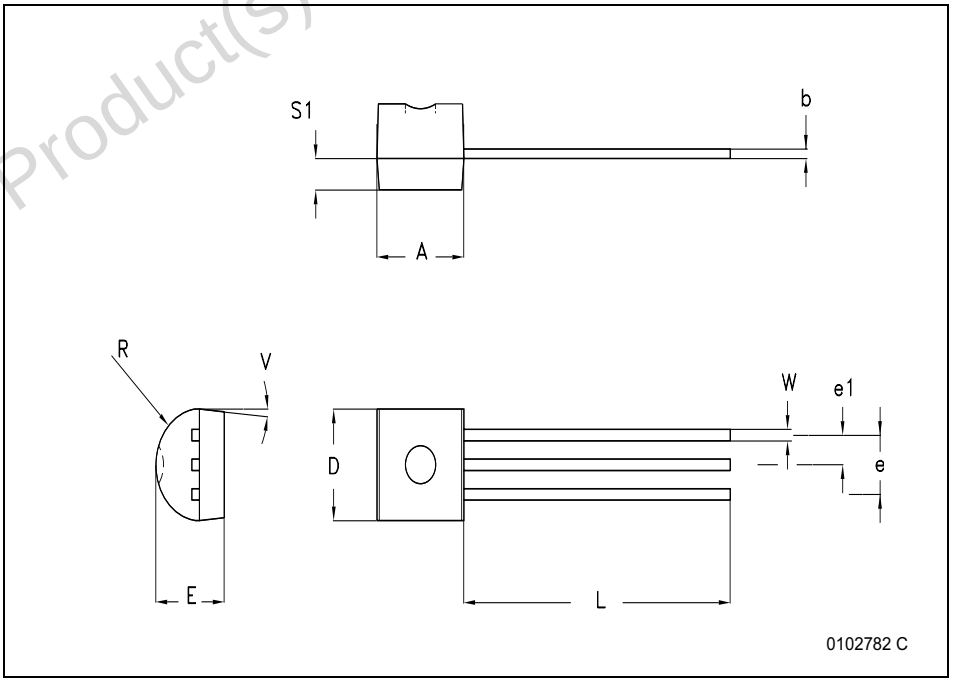
Note (1) Pulsed duration = 300µs, duty cycle ≤1.5%

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

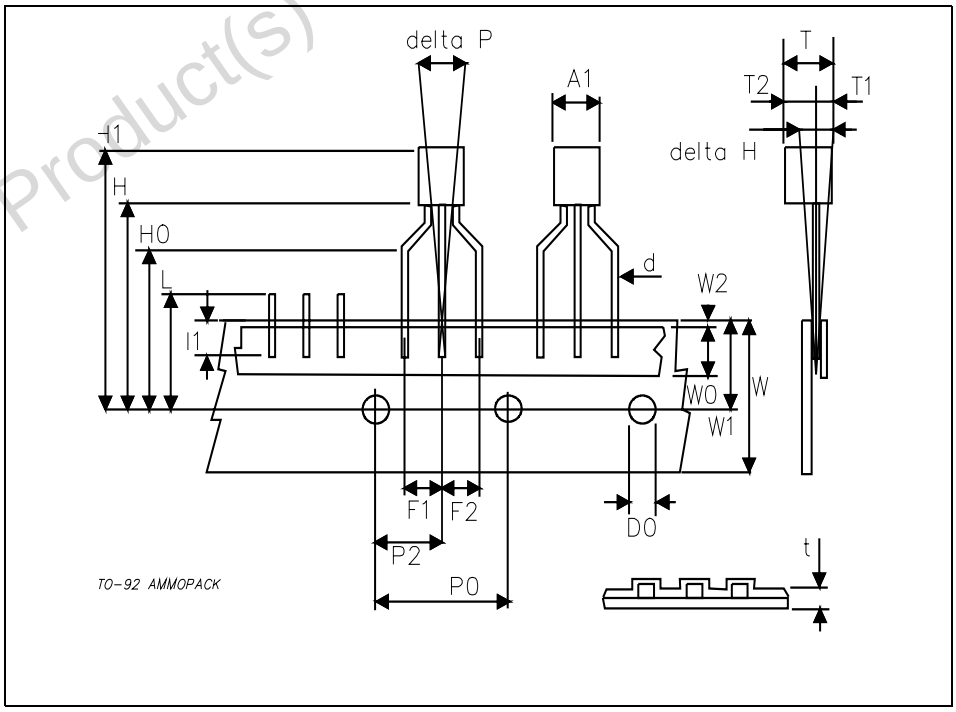
TO-92 BULK SHIPMENT MECHANICAL DATA

DIM.	mm.		
	MIN.	TYP	MAX.
A	4.32		4.95
b	0.36		0.51
D	4.45		4.95
E	3.30		3.94
e	2.41		2.67
e1	1.14		1.40
L	12.70		15.49
R	2.16		2.41
S1	0.92		1.52
W	0.41		0.56
V		5 ^{o}	



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

DIM.	mm.		
	MIN.	TYP	MAX.
A1			4.80
T			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
H	18.50		20.50
H0	15.50	16.00	16.50
H1			25.00
D0	3.80	4.00	4.20
t			0.90
L			11.00
I1	3.00		
delta P	-1.00		1.00



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.

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