



**BC557B**

## SMALL SIGNAL PNP TRANSISTOR

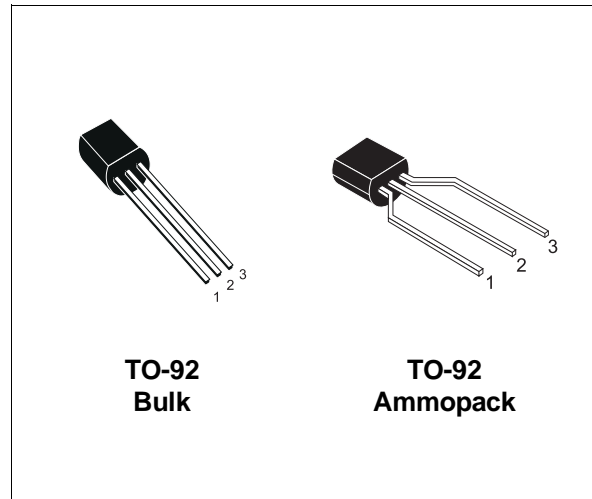
Ordering Code	Marking	Package / Shipment
BC557B	BC557B	TO-92 / Bulk
BC557B-AP	BC557B	TO-92 / Ammopack

- SILICON EPITAXIAL PLANAR PNP TRANSISTOR
- TO-92 PACKAGE SUITABLE FOR THROUGH-HOLE PCB ASSEMBLY
- THE NPN COMPLEMENTARY TYPE IS BC547B

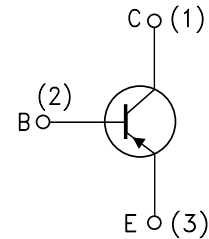
■

### APPLICATIONS

- WELL SUITABLE FOR TV AND HOME APPLIANCE EQUIPMENT
- SMALL LOAD SWITCH TRANSISTOR WITH HIGH GAIN AND LOW SATURATION VOLTAGE



### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	-50	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	-45	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	-5	V
$I_C$	Collector Current	-100	mA
$I_{CM}$	Collector Peak Current ( $t_p < 5$ ms)	-200	mA
$P_{tot}$	Total Dissipation at $T_C = 25$ °C	500	mW
$T_{stg}$	Storage Temperature	-65 to 150	°C
$T_j$	Max. Operating Junction Temperature	150	°C

## BC557B

### THERMAL DATA

R <sub>thj-amb</sub> •	Thermal Resistance Junction-Ambient	Max	250	°C/W
R <sub>thj-Case</sub> •	Thermal Resistance Junction-Case	Max	83.3	°C/W

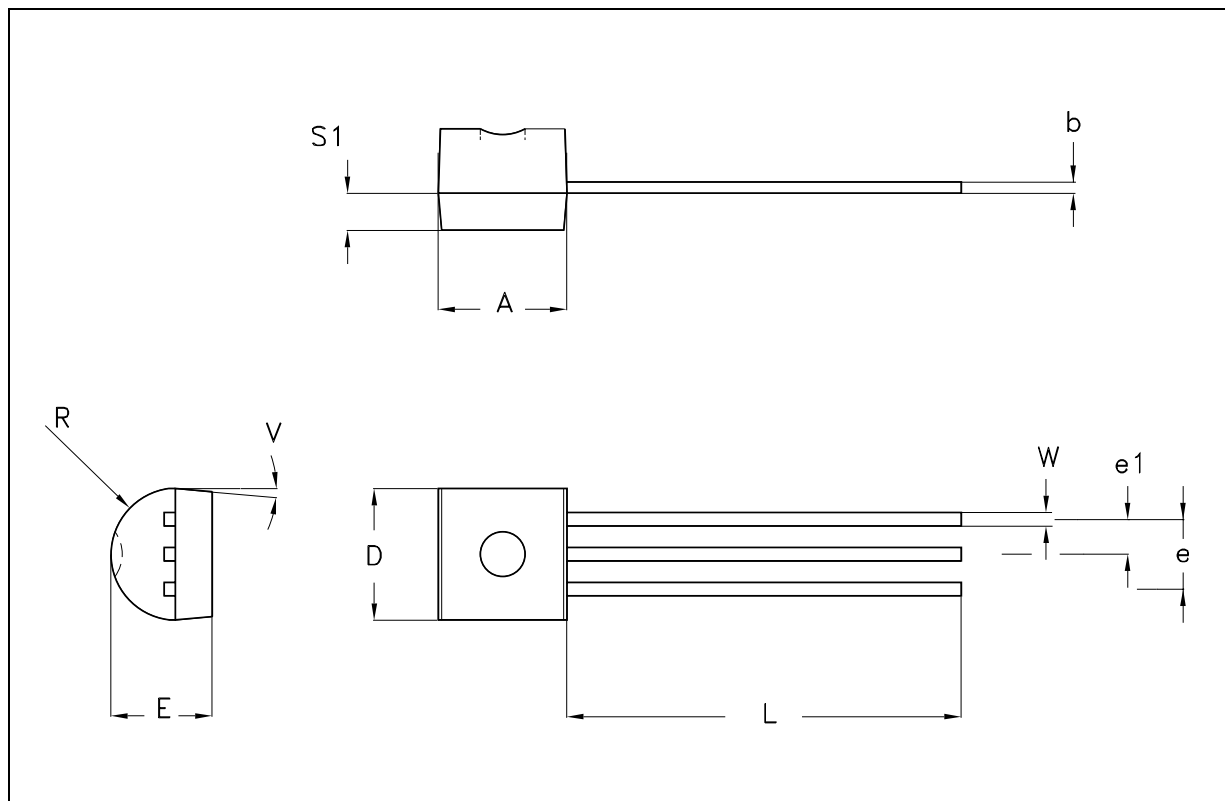
### ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CBO</sub>	Collector Cut-off Current (I <sub>E</sub> = 0)	V <sub>CB</sub> = -30 V V <sub>CB</sub> = -30 V      T <sub>C</sub> = 150 °C		-1	-15 -4	nA μA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = -5 V			-100	nA
V <sub>(BR)CEO</sub> *	Collector-Emitter Breakdown Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = -10 mA	-45			V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -10 mA      I <sub>B</sub> = -0.5 mA I <sub>C</sub> = -100 mA      I <sub>B</sub> = -5 mA		-0.06 0.18	-0.3 -0.65	V V
V <sub>BE(sat)</sub> *	Base-Emitter Saturation Voltage	I <sub>C</sub> = -10 mA      I <sub>B</sub> = -0.5 mA I <sub>C</sub> = -100 mA      I <sub>B</sub> = -5 mA		-0.75 -0.93		V V
V <sub>BE(on)</sub> *	Base-Emitter On Voltage	I <sub>C</sub> = -2 mA      V <sub>CE</sub> = -5 V I <sub>C</sub> = -10 mA      V <sub>CE</sub> = -5 V	-0.6	-0.65	-0.75 -0.82	V V
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = -2 mA      V <sub>CE</sub> = -5 V	220		475	
f <sub>T</sub>	Transition Frequency	I <sub>C</sub> = -10 mA    V <sub>CE</sub> = -5 V    f = 100MHz	100			MHz
C <sub>CBO</sub>	Collector-Base Capacitance	I <sub>E</sub> = 0      V <sub>CB</sub> = -10 V    f = 1 MHz		3		pF
C <sub>EBO</sub>	Emitter-Base Capacitance	I <sub>C</sub> = 0      V <sub>EB</sub> = -0.5 V    f = 1 MHz		10		pF
NF	Noise Figure	V <sub>CE</sub> = -5 V    I <sub>C</sub> = -200 μA    f = 1KHz Δf = 200 Hz    R <sub>G</sub> = 2 KΩ		2	10	dB

\* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %

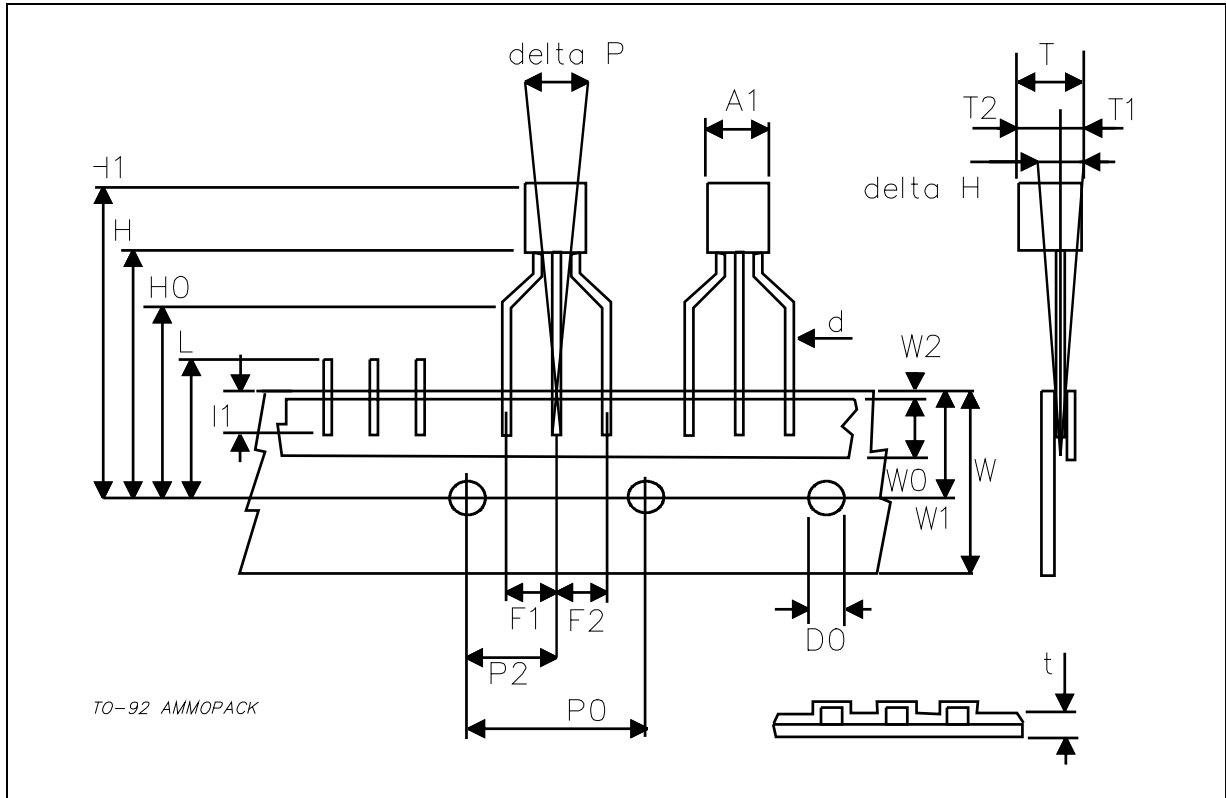
## TO-92 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.32		4.95	0.170		0.195
b	0.36		0.51	0.014		0.020
D	4.45		4.95	0.175		0.194
E	3.30		3.94	0.130		0.155
e	2.41		2.67	0.095		0.105
e1	1.14		1.40	0.045		0.055
L	12.70		15.49	0.500		0.609
R	2.16		2.41	0.085		0.094
S1	1.14		1.52	0.045		0.059
W	0.41		0.56	0.016		0.022
V	4 degree		6 degree	4 degree		6 degree



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

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A1			4.80			0.189
T			3.80			0.150
T1			1.60			0.063
T2			2.30			0.091
d			0.48			0.019
P0	12.50	12.70	12.90	0.492	0.500	0.508
P2	5.65	6.35	7.05	0.222	0.250	0.278
F1,F2	2.44	2.54	2.94	0.096	0.100	0.116
delta H	-2.00		2.00	-0.079		0.079
W	17.50	18.00	19.00	0.689	0.709	0.748
W0	5.70	6.00	6.30	0.224	0.236	0.248
W1	8.50	9.00	9.25	0.335	0.354	0.364
W2			0.50			0.020
H	18.50		20.50	0.728		0.807
H0	15.50	16.00	16.50	0.610	0.630	0.650
H1			25.00			0.984
D0	3.80	4.00	4.20	0.150	0.157	0.165
t			0.90			0.035
L			11.00			0.433
I1	3.00			0.118		
delta P	-1.00		1.00	-0.039		0.039



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics

© 2003 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

<http://www.st.com>