

## SMALL SIGNAL PNP TRANSISTOR

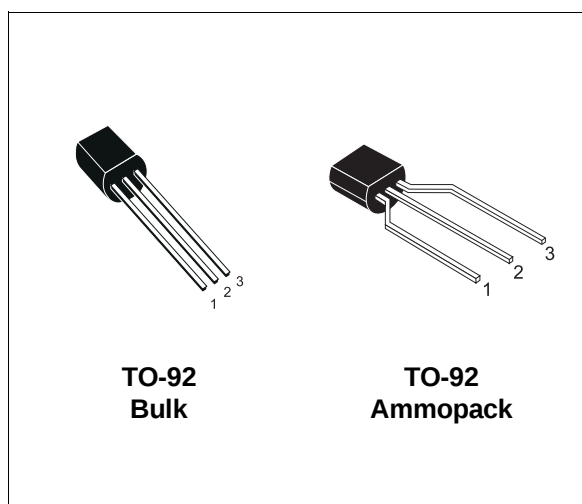
### PRELIMINARY DATA

| Ordering Code | Marking | Package / Shipment |
|---------------|---------|--------------------|
| BC636         | BC636   | TO-92 / Bulk       |
| BC636-AP      | BC636   | TO-92 / Ammopack   |

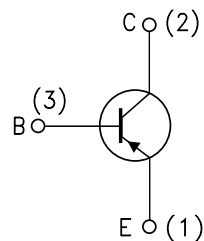
- SILICON EPITAXIAL PLANAR PNP TRANSISTOR
- TO-92 PACKAGE SUITABLE FOR THROUGH-HOLE PCB ASSEMBLY
- THE NPN COMPLEMENTARY TYPE IS BC635

### 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       |
|-----------|---------------------------------------------------|------------|------------|
| $V_{CER}$ | Collector-Emitter Voltage ( $R_{BE} = 1K\Omega$ ) | -45        | V          |
| $V_{CEO}$ | Collector-Emitter Voltage ( $I_B = 0$ )           | -45        | V          |
| $V_{CES}$ | Collector-Emitter Voltage ( $V_{BE} = 0$ )        | -45        | V          |
| $V_{EBO}$ | Emitter-Base Voltage ( $I_C = 0$ )                | -5         | V          |
| $I_C$     | Collector Current                                 | -1         | A          |
| $I_{CM}$  | Collector Peak Current                            | -1.5       | A          |
| $P_{tot}$ | Total Dissipation at $T_{amb} = 25^\circ C$       | 1          | W          |
| $T_{stg}$ | Storage Temperature                               | -65 to 150 | $^\circ C$ |
| $T_j$     | Max. Operating Junction Temperature               | 150        | $^\circ C$ |

## THERMAL DATA

|                         |                                     |     |      |      |
|-------------------------|-------------------------------------|-----|------|------|
| R <sub>thj-amb</sub> •  | Thermal Resistance Junction-Ambient | Max | 125  | °C/W |
| R <sub>thj-Case</sub> • | Thermal Resistance Junction-Case    | Max | 83.3 | °C/W |

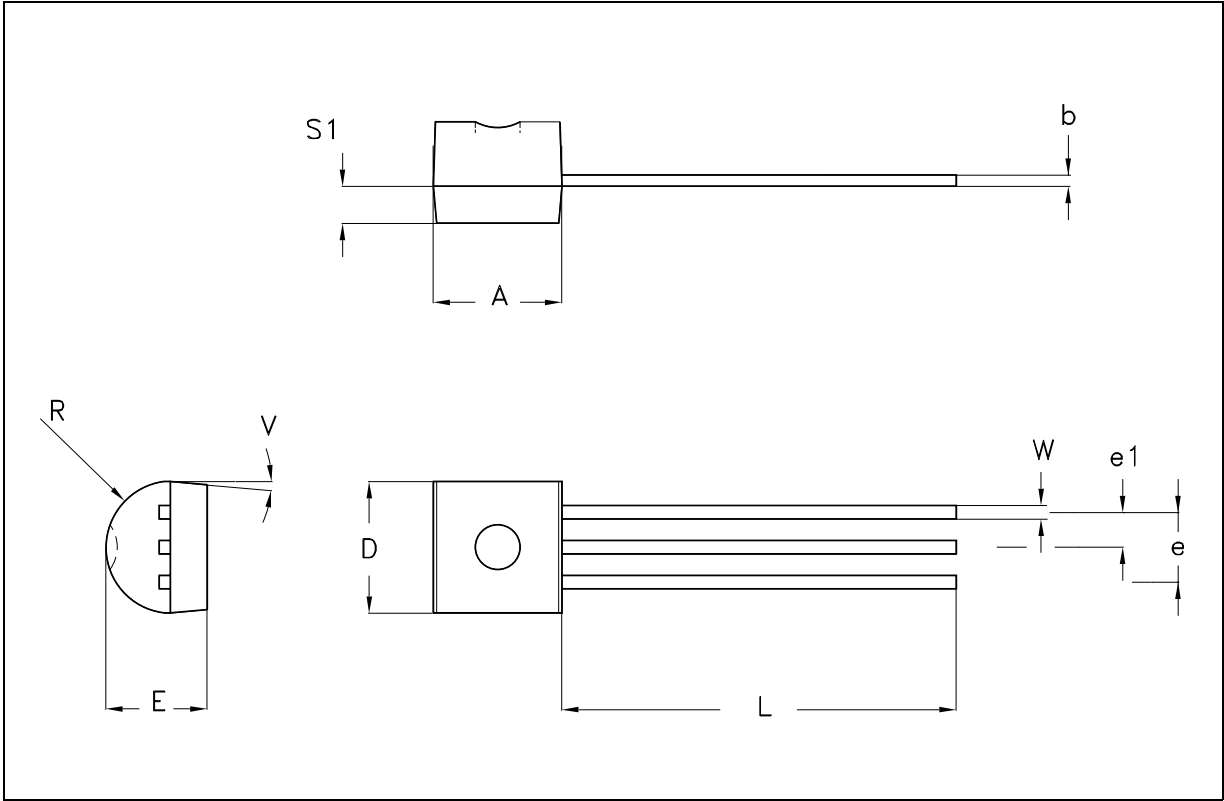
ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

| 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                                                        |                                                                            |                |      | -0.1 | μA   |
| I <sub>EBO</sub>       | Emitter Cut-off Current (I <sub>C</sub> = 0)             | V <sub>EB</sub> = -5 V                                                         |                                                                            |                |      | -0.1 | μA   |
| 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> = -500 mA                                                       | I <sub>B</sub> = -50 mA                                                    |                |      | -0.5 | V    |
| V <sub>BE(on)</sub> *  | Base-Emitter On Voltage                                  | I <sub>C</sub> = -500 mA                                                       | V <sub>CE</sub> = -2 V                                                     |                |      | -1   | V    |
| h <sub>FE</sub>        | DC Current Gain                                          | I <sub>C</sub> = -5 mA<br>I <sub>C</sub> = -150 mA<br>I <sub>C</sub> = -500 mA | V <sub>CE</sub> = -2 V<br>V <sub>CE</sub> = -2 V<br>V <sub>CE</sub> = -2 V | 25<br>40<br>25 |      | 250  |      |
| f <sub>T</sub>         | Transition Frequency                                     | I <sub>C</sub> = -10 mA V <sub>CE</sub> = -5 V f = 50MHz                       |                                                                            |                | 100  |      | MHz  |

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

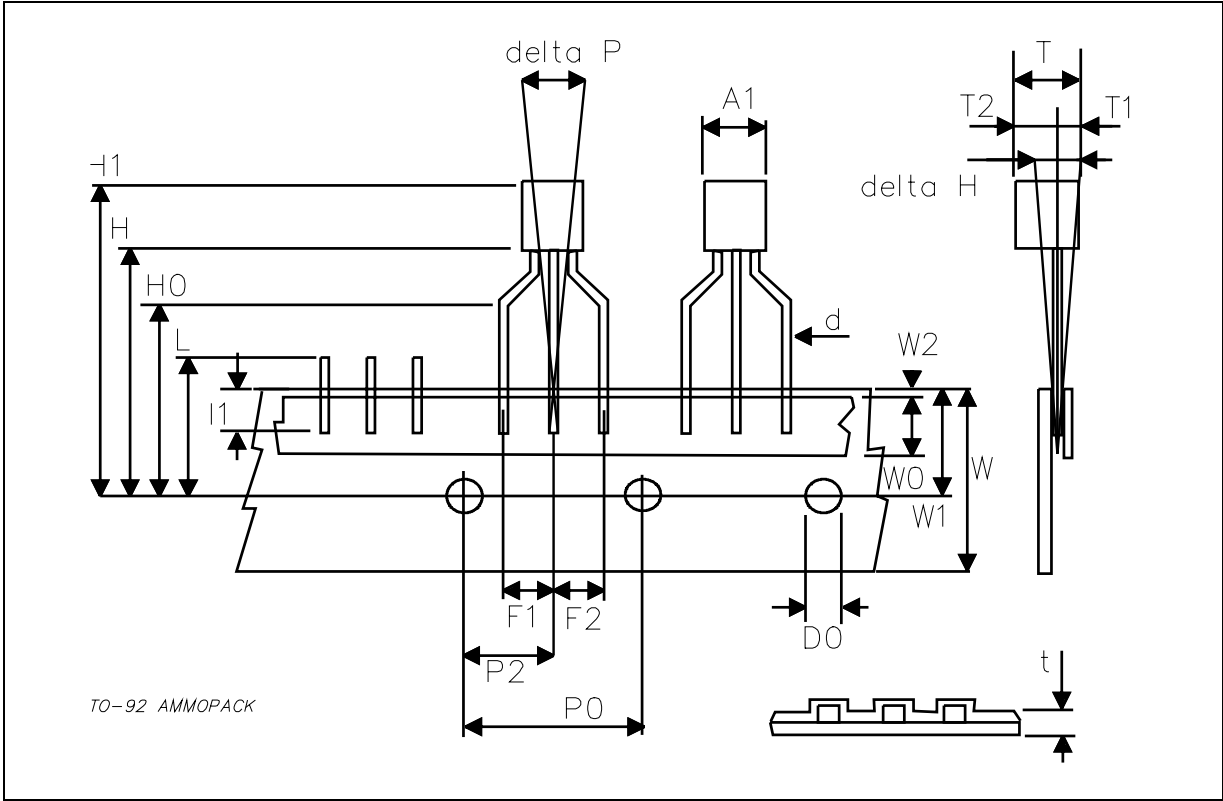
TO-92 MECHANICAL DATA

| 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 |



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