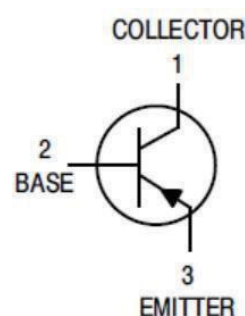


**BIPOLAR TRANSISTOR (PNP)**
**Features**

The PNP Bipolar Transistor is designed for use in linear and switching applications. The device is housed in the TO-92 package, which is designed for medium power applications. These are PbFree Devices  
Complement to:BC337


**Maximum Ratings (Ta = 25°)**

| Parameter                   | Symbol     | Rating   | Unit |
|-----------------------------|------------|----------|------|
| Collector-emitter voltage   | $BV_{CBS}$ | -50      | V    |
| Collector-emitter voltage   | $BV_{CEO}$ | -45      | V    |
| Emitter-base voltage        | $BV_{EBO}$ | -5       | V    |
| Collector current           | $I_{CM}$   | 800      | mA   |
| Collector Power Dissipation | $P_C$      | 0.625    | W    |
| Junction Temperature        | $T_j$      | 150      | °C   |
| Storage Temperature         | $T_{stg}$  | -55~+150 | °C   |


**Electrical Characteristics (Ta=25°C)**

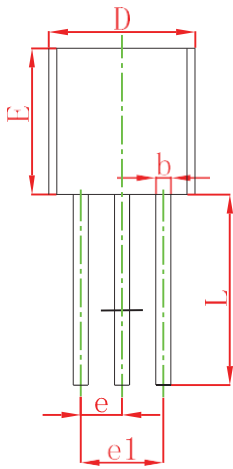
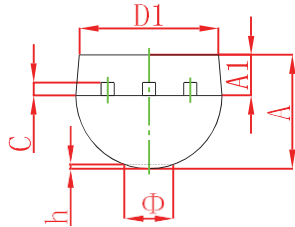
| Parameter                            | Symbol      | Test Condition                | Min | Typ | Max  | Unit    |
|--------------------------------------|-------------|-------------------------------|-----|-----|------|---------|
| Collector-Emitter Breakdown Voltage  | $BV_{CES}$  | $I_C=-100\mu A, I_E=0$        | -50 |     |      | V       |
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$  | $I_C=-10mA, I_B=0$            | -45 |     |      | V       |
| Emitter-Base Breakdown Voltage       | $BV_{EBO}$  | $I_E=-100\mu A, I_C=0$        | -5  |     |      | V       |
| collector-emitter cut-off current    | $I_{CES}$   | $V_{CE}=-45V, I_B=0$          |     |     | -0.1 | $\mu A$ |
| DC current gain                      | $H_{FE1}$   | $V_{CE}=-1V, I_C=-100mA$      | 100 |     | 630  |         |
| DC current gain                      | $H_{FE2}$   | $V_{CE}=-1V, I_C=-300mA$      | 60  |     |      |         |
| collector-emitter saturation voltage | $V_{CESAT}$ | $I_C=-500mA, I_B=-50mA$       |     |     | -0.7 | V       |
| Base-Emitter On Voltage              | $V_{BEON}$  | $V_{CE}=-1V, I_C=-300mA$      |     |     | -1.2 | V       |
| Transition frequency                 | $f_T$       | $V_{CE}=-5V, I_C=-10mA$       |     | 100 |      | MHZ     |
| Output Capacitance                   | $C_{ob}$    | $V_{CB} = -10 V, f = 1.0 MHz$ |     | 15  |      | pF      |

 **$H_{FE}$  Classification**

| Classification | 16      | 25      | 40      |
|----------------|---------|---------|---------|
| $h_{FE1}$      | 100-250 | 160-400 | 250-630 |

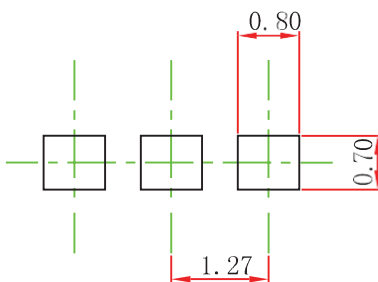
**BIPOLAR TRANSISTOR (PNP)**

**TO-92 Package Outline Dimensions**



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 3.300                     | 3.700  | 0.130                | 0.146 |
| A1     | 1.100                     | 1.400  | 0.043                | 0.055 |
| b      | 0.380                     | 0.550  | 0.015                | 0.022 |
| c      | 0.360                     | 0.510  | 0.014                | 0.020 |
| D      | 4.300                     | 4.700  | 0.169                | 0.185 |
| D1     | 3.430                     |        | 0.135                |       |
| E      | 4.300                     | 4.700  | 0.169                | 0.185 |
| e      | 1.270 TYP                 |        | 0.050 TYP            |       |
| e1     | 2.440                     | 2.640  | 0.096                | 0.104 |
| L      | 14.100                    | 14.500 | 0.555                | 0.571 |
| Φ      |                           | 1.600  |                      | 0.063 |
| h      | 0.000                     | 0.380  | 0.000                | 0.015 |

**TO-92 Suggested Pad Layout**



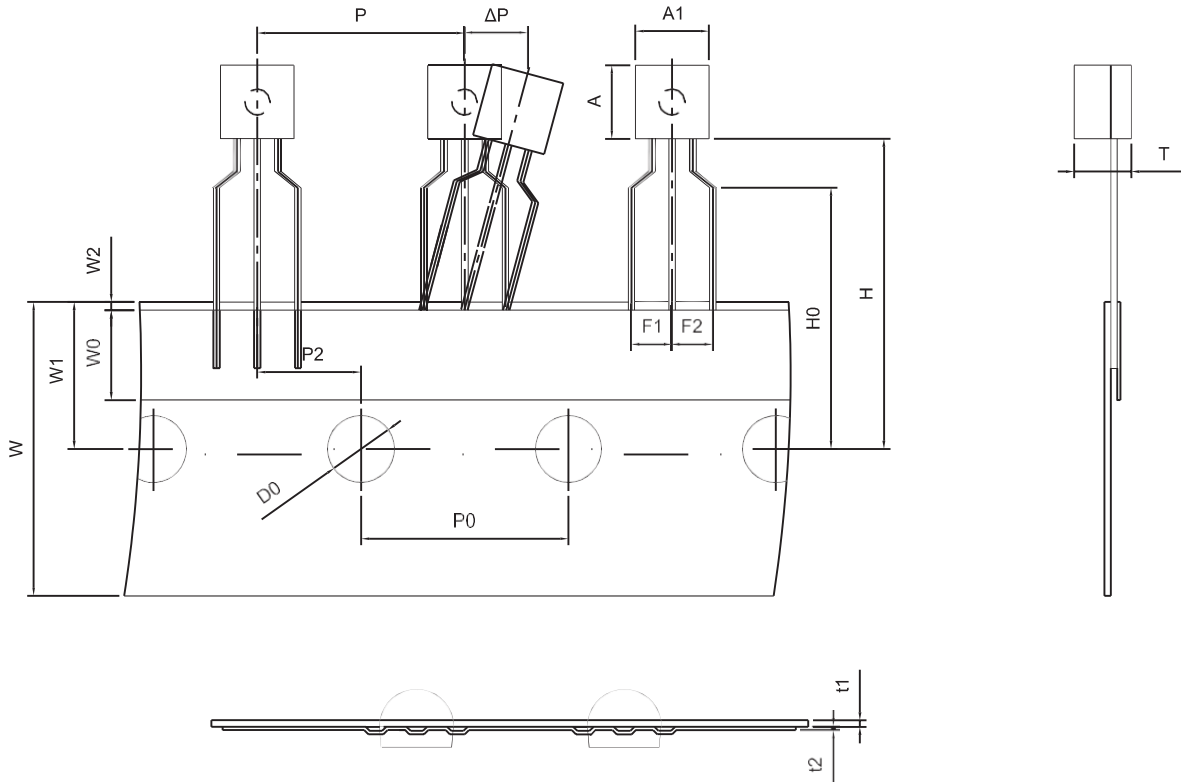
Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**BIPOLAR TRANSISTOR (PNP)**

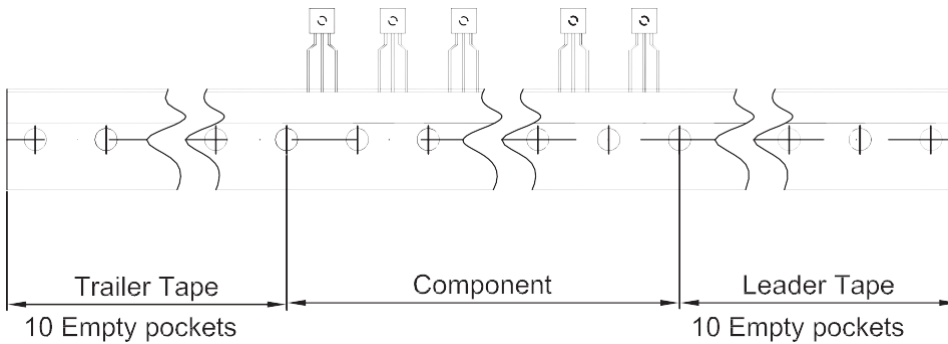
**TO-92 7DSH DQG 5HH0**

**TO-92 PACKAGE TAPEING DIMENSION**



Dimensions are in millimeter

| A1  | A   | T        | P    | P0   | P2   | F1  | F2  | W    |
|-----|-----|----------|------|------|------|-----|-----|------|
| 4.5 | 4.5 | 3.5      | 12.7 | 12.7 | 6.35 | 2.5 | 2.5 | 18.0 |
| W0  | W1  | W2       | H    | H0   | D0   | t1  | t2  | ΔP   |
| 6.0 | 9.0 | 1.0 MAX. | 19.0 | 16.0 | 4.0  | 0.4 | 0.2 | 0    |



| Package | Box      | Box Size(mm) | Carton     | Carton Size(mm) |
|---------|----------|--------------|------------|-----------------|
| TO-92   | 2000 pcs | 333×162×43   | 20,000 pcs | 350×340×250     |