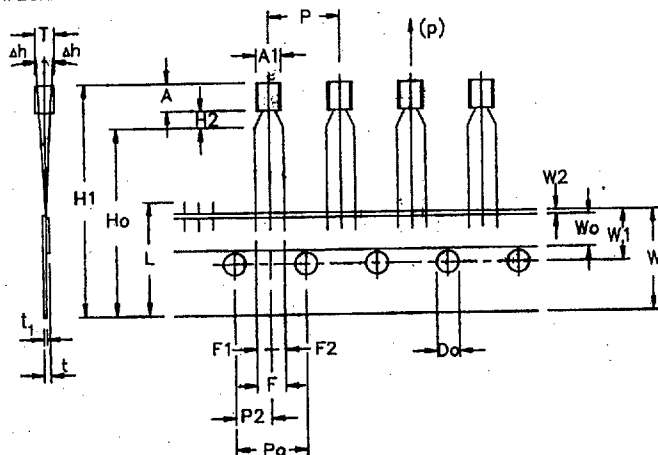


# TO-92 Plastic Package Transistors (PNP)

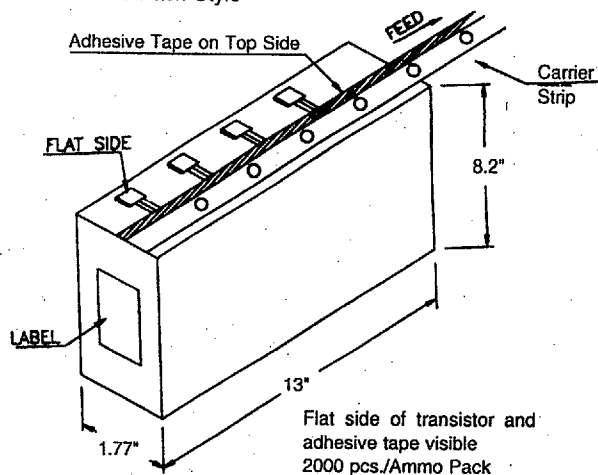
CDIL

| Maximum Ratings |                             |                             |                             |                                 |                    |                              |                              |                              |                              | Electrical Characteristics (Ta=25°C, Unless Otherwise Specified) |     |                                               |                                 |                                 |                               |                             |                             |   |                               |                              |                            |              |                             |                 |
|-----------------|-----------------------------|-----------------------------|-----------------------------|---------------------------------|--------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------------------------------------------|-----|-----------------------------------------------|---------------------------------|---------------------------------|-------------------------------|-----------------------------|-----------------------------|---|-------------------------------|------------------------------|----------------------------|--------------|-----------------------------|-----------------|
| Type No.        | V <sub>CB0</sub> (V)<br>Min | V <sub>CE0</sub> (V)<br>Min | V <sub>EB0</sub> (V)<br>Min | P <sub>D</sub> (W)<br>@ Tc=25°C | I <sub>C</sub> (A) | I <sub>CB0</sub> (μA)<br>Max | V <sub>CB</sub> (V)<br>@ (V) | I <sub>CES</sub> (μA)<br>Max | V <sub>CE</sub> (V)<br>@ (V) | h <sub>FE</sub>                                                  | β   | I <sub>C</sub> & V <sub>CE</sub> (mA)<br>(mA) | V <sub>CE(SAT)</sub> (V)<br>Max | V <sub>BE(SAT)</sub> (V)<br>Max | I <sub>C</sub> (mA)<br>@ (mA) | C <sub>ob</sub> (pF)<br>Typ | f <sub>T</sub> (MHz)<br>Min | β | I <sub>C</sub> (mA)<br>@ (mA) | t <sub>off</sub> (ns)<br>Max | N <sub>F</sub> (dB)<br>Max | @ Freq (MHz) | C <sub>re</sub> (pF)<br>Max | CDIL Case Style |
| CO38P           | 300                         | 300                         | 5                           | 0.8                             | 0.5                | 0.1                          | 240                          | 0.2                          | 250                          | 25                                                               | 200 | 0.02 0.5<br>25 200 0.2 0.5                    | 0.5                             | 0.8                             | 1                             |                             |                             |   |                               |                              |                            |              |                             | TO-92-1         |
| CP4             | 12                          | 12                          | 5                           | 0.4                             | 0.15               | 1                            | 10                           |                              |                              | 50                                                               | 700 | 2 5                                           | 0.25<br>0.65                    |                                 | 10<br>100                     |                             |                             |   |                               |                              |                            |              |                             | TO-92-4         |
| CP500           | 25                          | 25                          | 5                           | 0.3                             | 0.5                | 0.2                          | 25                           |                              |                              | 50                                                               | 300 | 10 6                                          | 0.35                            | 0.65 1.0                        | 50<br>10                      | 6                           | 150                         |   | 10                            |                              |                            |              |                             | TO-92           |
| CP501           | 35                          | 35                          | 5                           | 0.3                             | 0.5                | 0.2                          | 35                           |                              |                              | 50                                                               | 300 | 10 6                                          | 0.25                            | 0.65 1.0                        | 50<br>10                      | 6                           | 150                         |   | 10                            |                              |                            |              |                             | TO-92           |
| CP502           | 35                          | 35                          | 5                           | 0.3                             | 0.5                | 0.2                          | 35                           |                              |                              | 20<br>100<br>50                                                  | 300 | 0.1 6<br>10 6<br>50 6                         | 0.25                            | 0.65 1.0                        | 50<br>10                      | 6                           | 150                         |   | 10                            |                              |                            |              |                             | TO-92           |
| CP503           | 45                          | 45                          | 5                           | 0.3                             | 0.5                | 0.2                          | 45                           |                              |                              | 50                                                               | 300 | 10 6                                          | 0.35                            | 0.65 1.0                        | 50<br>10                      | 6                           | 150                         |   | 10                            |                              |                            |              |                             | TO-92           |
| CP504           | 70                          | 70                          | 5                           | 0.3                             | 0.5                | 0.2                          | 70                           |                              |                              | 50                                                               | 300 | 10 6                                          | 0.6                             | 0.65 1.0                        | 50<br>10                      | 6                           | 150                         |   | 10                            |                              |                            |              |                             | TO-92           |
| CP550           | 60                          | 45                          | 5                           | 0.75                            | 1                  | 0.1                          | 45                           |                              |                              | 100<br>15                                                        | 300 | 150 10<br>1000 10                             | 0.25                            | 1.1                             | 150                           | 25                          | 150                         |   | 50                            |                              |                            |              |                             | TO-92           |
| CP551           | 80                          | 60                          | 5                           | 0.75                            | 1                  | 0.1                          | 60                           |                              |                              | 50<br>10                                                         | 150 | 150 10<br>1000 10                             | 0.35                            | 1.1                             | 150                           | 25                          | 150                         |   | 50                            |                              |                            |              |                             | TO-92           |
| CP552           | 100                         | 80                          | 5                           | 0.75                            | 1                  | 0.1                          | 80                           |                              |                              | 40<br>10                                                         | 150 | 150 10<br>1000 10                             | 0.25                            | 1.1                             | 150                           | 12                          | 150                         |   | 50                            |                              |                            |              |                             | TO-92           |
| CP553           | 120                         | 100                         | 5                           | 0.75                            | 1                  | 0.1                          | 100                          |                              |                              | 40<br>10                                                         | 200 | 150 10<br>1000 10                             | 0.25                            | 1.1                             | 150                           | 12                          | 150                         |   | 50                            |                              |                            |              |                             | TO-92           |
| CP749           | 35                          | 25                          | 5                           | 0.75                            | 2                  | 0.1                          | 30                           |                              |                              | 70<br>100<br>75<br>10                                            | 50  | 2<br>1000 2<br>2000 2<br>6000 2               | 0.3<br>0.6                      | 1.25                            | 1000<br>2000                  | 100                         | 100                         |   | 100                           |                              |                            |              |                             | TO-92           |
| CP750           | 60                          | 45                          | 5                           | 0.75                            | 2                  | 0.1                          | 45                           |                              |                              | 70<br>100<br>80<br>40                                            | 50  | 2<br>500 2<br>1000 2<br>2000 2                | 0.3<br>0.5                      | 1.25                            | 1000<br>2000                  | 30                          | 100                         |   | 100                           |                              |                            |              |                             | TO-92           |
| CP751           | 80                          | 60                          | 5                           | 0.75                            | 2                  | 0.1                          | 60                           |                              |                              | 70<br>100<br>80<br>40                                            | 50  | 2<br>500 2<br>1000 2<br>2000 2                | 0.3<br>0.5                      | 1.25                            | 1000<br>2000                  | 30                          | 100                         |   | 100                           |                              |                            |              |                             | TO-92           |
| CP752           | 100                         | 80                          | 5                           | 0.75                            | 2                  | 0.1                          | 80                           |                              |                              | 70<br>100<br>55<br>25                                            | 50  | 2<br>500 2<br>1000 2<br>2000 2                | 0.3<br>0.5                      | 1.25                            | 1000<br>2000                  | 30                          | 100                         |   | 100                           |                              |                            |              |                             | TO-92           |
| CP753           | 120                         | 100                         | 5                           | 0.75                            | 2                  | 0.1                          | 100                          |                              |                              | 70<br>100<br>55<br>25                                            | 50  | 2<br>500 2<br>1000 2<br>2000 2                | 0.3<br>0.5                      | 1.25                            | 1000<br>2000                  | 30                          | 100                         |   | 100                           |                              |                            |              |                             | TO-92           |
| CP754           | 125                         | 125                         | 5                           | 0.75                            | 1                  | 0.1                          | 100                          |                              |                              | 50<br>50<br>20                                                   | 10  | 5<br>500 5<br>1000 5                          | 0.5<br>0.5                      | 1.1                             | 500<br>1000                   | 20                          | 30                          |   | 10                            |                              |                            |              |                             | TO-92           |
| CP755           | 150                         | 150                         | 5                           | 0.75                            | 1                  | 0.1                          | 125                          |                              |                              | 50<br>50<br>20                                                   | 10  | 5<br>500 5<br>1000 5                          | 0.5<br>0.5                      | 1.1                             | 500<br>1000                   | 20                          | 30                          |   | 10                            |                              |                            |              |                             | TO-92           |

## MECHANICAL DATA



## Ammo Pack Style



| Item                                    | Symbol | Specification |      |       |              | Remarks                                                                            |
|-----------------------------------------|--------|---------------|------|-------|--------------|------------------------------------------------------------------------------------|
|                                         |        | Min.          | Nom. | Max.  | Tol.         |                                                                                    |
| Body Width                              | A1     | 4.0           |      | 4.8   |              |                                                                                    |
| Body Height                             | A      | 4.8           |      | 5.2   |              |                                                                                    |
| Body Thickness                          | T      | 3.9           |      | 4.2   |              |                                                                                    |
| Pitch of Component                      | P      |               | 12.7 |       | ±1           |                                                                                    |
| Feed Hole Pitch                         | Po     |               | 12.7 |       | ±0.3         | Cumulative Pitch Error<br>1.0 mm/20 Pitch<br>To be measured at<br>bottom of Clinch |
| Feed Hole Centre to<br>Component Centre | P2     |               | 6.35 |       | ±0.4         |                                                                                    |
| Distance between Outer<br>Leads         | F      |               | 5.08 |       | ±0.6         |                                                                                    |
| Component Alignment                     | Δh     |               | 0    | 1     | -0.2         | At Top of Body                                                                     |
| Tape Width                              | W      |               | 18   |       | ±0.5         |                                                                                    |
| Hold-Down Tape Width                    | Wo     |               | 6    |       | ±0.2         |                                                                                    |
| Hole Position                           | W1     |               | 9    |       | ±0.7         |                                                                                    |
| Hold-Down Tape Position                 | W2     |               | 0.5  |       | ±0.2         |                                                                                    |
| Lead Wire Clinch Height                 | Ho     |               | 16   |       | ±0.5         |                                                                                    |
| Component Height                        | H1     |               |      | 32.25 |              |                                                                                    |
| Length of Snipped leads                 | L      |               |      | 11.0  |              |                                                                                    |
| Feed Hole Diameter                      | Do     |               | 4    |       | ±0.2         |                                                                                    |
| Total Tape Thickness                    | t      |               |      | 1.2   |              | t <sub>1</sub> 0.3-0.6                                                             |
| Lead-to-Lead Distance                   | F1,F2  |               | 2.54 |       | +0.4<br>-0.1 |                                                                                    |
| Clinch Height                           | H2     |               |      | 3     |              |                                                                                    |
| Pull-out Force                          | (p)    | 6N            |      |       |              |                                                                                    |

Dimensions in m.m.

## Notes:

- Maximum alignment deviation between leads not to be greater than 0.2 mm.
- Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches
- Hold-down tape not to exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
- No more than 3 consecutive missing components permitted.
- A tape trailer, having at least three feed holes is required after the last component.
- Splices shall not interfere with the sprocket feed holes.