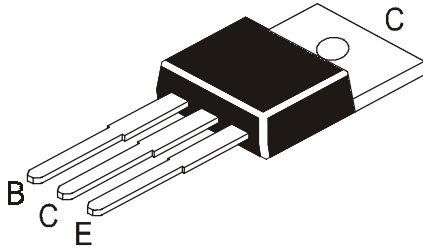


## PLASTIC POWER TRANSISTORS

BD 905, 907, 909, 911 NPN  
BD906, 908, 910, 912 PNP



TO-220  
Plastic Package

### Power Linear and Switching Applications

#### ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise )

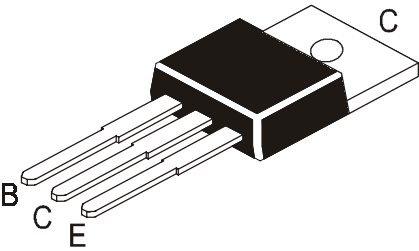
| DESCRIPTION                           | SYMBOL     | 905<br>906 | 907<br>908 | 909<br>910  | 911<br>912 | UNIT |
|---------------------------------------|------------|------------|------------|-------------|------------|------|
| Collector -Emitter Voltage            | $V_{CEO}$  | 45         | 60         | 80          | 100        | V    |
| Collector -Base Voltage               | $V_{CBO}$  | 45         | 60         | 80          | 100        | V    |
| Emitter -Base Voltage                 | $V_{EBO}$  |            |            | 5.0         |            | V    |
| Emitter and Collector Current         | $I_E, I_C$ |            |            | 15          |            | A    |
| Base Current                          | $I_B$      |            |            | 5.0         |            | A    |
| Total Power Dissipation up to Tc=25°C | $P_{tot}$  |            |            | 90          |            | W    |
| Junction Temperature                  | $T_j$      |            |            | 150         |            | °C   |
| Temperature Range                     | $T_{stg}$  |            |            | -65 to +150 |            | °C   |

#### ELECTRICAL CHARACTERISTICS (Tc=25°C Unless Otherwise Specified)

| DESCRIPTION               | SYMBOL                                 | 905<br>906 | 907<br>908 | 909<br>910 | 911<br>912 | UNIT |
|---------------------------|----------------------------------------|------------|------------|------------|------------|------|
| Breakdown (sus) Voltage   | $V_{CEO(sus)}^*$ $I_C=50mA, I_B=0$     | 45         | 60         | 80         | 100        | V    |
| Collector-Cut off Current | $I_{CEO}$ $V_{CE}=30V, I_B=0$          | 1.0        | 1.0        |            |            | mA   |
|                           | $V_{CE}=40V, I_B=0$                    |            |            | 1.0        |            | mA   |
|                           | $V_{CE}=50V, I_B=0$                    |            |            |            | 1.0        | mA   |
|                           | $I_{CBO}$ $I_E=0, V_{CB}=\text{Rated}$ |            |            |            |            |      |
|                           | $V_{CBO}, I_E=0, V_{CB}=\text{Rated}$  |            |            | 0.5        |            | mA   |
|                           | $V_{CBO}, T_c=150^\circ\text{C}$       |            |            | 5          |            | mA   |
| Emitter-Cut off Current   | $I_{EBO}$ $V_{EB}=5V, I_C=0$           |            |            | 1.0        |            | mA   |
| Saturation Voltages       | $V_{CE(sat)}^*$ $I_C=5A, I_B=0.5A$     |            |            | 1.0        |            | V    |
|                           | $I_C=10A, I_B=2.5A$                    |            |            | 3.0        |            | V    |
|                           | $V_{BE(sat)}^*$ $I_C=10A, I_B=2.5A$    |            |            | 2.5        |            | V    |

PLASTIC POWER TRANSISTORS

BD 905, 907, 909, 911 NPN  
BD906, 908, 910, 912 PNP

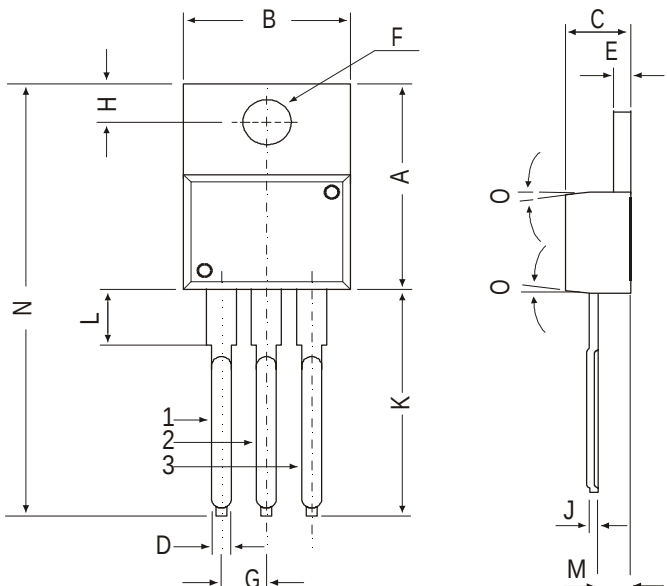


TO-220  
Plastic Package

| DESCRIPTION                                      | SYMBOL                              | 905<br>906 | 907<br>908 | 909<br>910 | 911<br>912 | UNIT |
|--------------------------------------------------|-------------------------------------|------------|------------|------------|------------|------|
| Base Emitter on Voltage                          | $V_{BE(on)}^*$ $I_C=5A, V_{CE}=4V,$ |            |            | 1.5        |            | V    |
| DC Current Gain                                  | $h_{FE}^*$ $I_C=0.5A, V_{CE}=4V$    |            |            | 40-250     |            |      |
|                                                  | $I_C=5A, V_{CE}=4V$                 |            |            | 15-150     |            |      |
|                                                  | $I_C=10A, V_{CE}=4V$                |            |            | >5         |            |      |
| Transition Frequency                             | $f_T$ $V_{CE}=4V, I_C=0.5A,$        |            |            | >3.0       |            | MHZ  |
| *Pulse Test:- Pulse Width<300μs, Duty Cycle=1.5% |                                     |            |            |            |            |      |

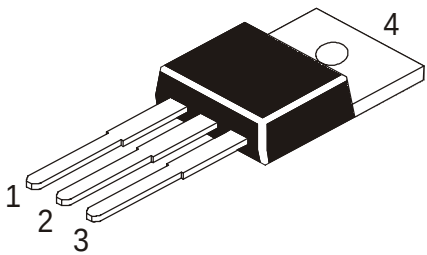
TO-220  
Plastic Package

TO-220 Plastic Package



| DIM | MIN   | MAX   |
|-----|-------|-------|
| A   | 14.42 | 16.51 |
| B   | 9.63  | 10.67 |
| C   | 3.56  | 4.83  |
| D   | —     | 0.90  |
| E   | 1.15  | 1.50  |
| F   | 3.53  | 4.10  |
| G   | 2.29  | 2.79  |
| H   | 2.54  | 3.43  |
| J   | 0.36  | 0.61  |
| K   | 12.70 | 14.73 |
| L   | 2.80  | 6.35  |
| M   | 2.00  | 2.92  |
| N   | —     | 31.24 |
| O   | 7 DEG |       |

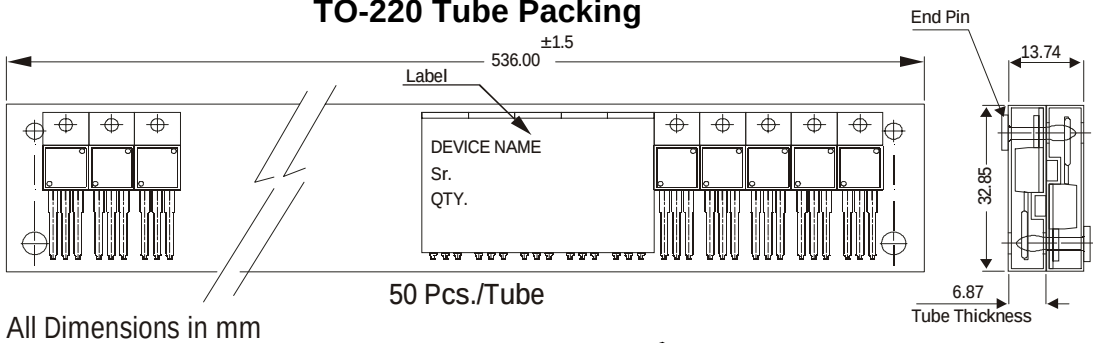
All diminsions in mm.



Pin Configuration

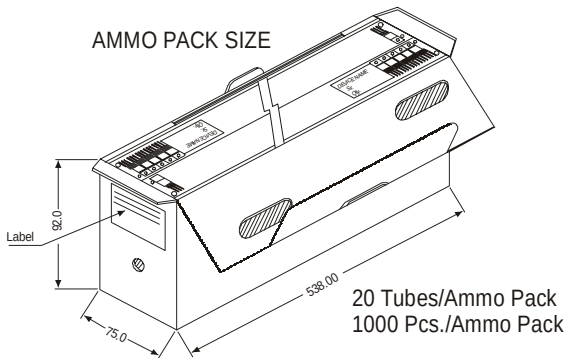
- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector

TO-220 Tube Packing



All Dimensions in mm

AMMO PACK SIZE



Packing Detail

| PACKAGE | STANDARD PACK   |                | INNER CARTON BOX    |     | OUTER CARTON BOX  |     |        |
|---------|-----------------|----------------|---------------------|-----|-------------------|-----|--------|
|         | Details         | Net Weight/Qty | Size                | Qty | Size              | Qty | Gr Wt  |
| TO-220  | 200 pcs/polybag | 396 gm/200 pcs | 3" x 7.5" x 7.5"    | 1K  | 17" x 15" x 13.5" | 16K | 36 kgs |
|         | 50 pcs/tube     | 135 gm/50 pcs  | 3.5" x 3.7" x 21.5" | 1K  | 19" x 19" x 19"   | 10K | 28 kgs |

**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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