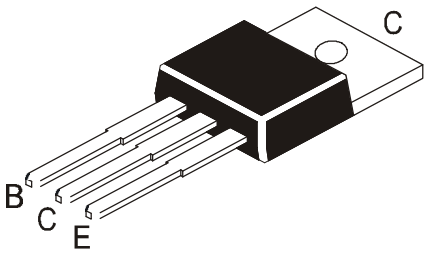
# PLASTIC POWER TRANSISTORS

**TIP130 | TIP135**
**TIP131 | TIP136**
**TIP132 | TIP137**
**NPN | PNP**




**TO-220**
**Plastic Package**

## Intended for use in Linear and Switching Applications

### ABSOLUTE MAXIMUM RATINGS ($T_a$=25ºC)

| DESCRIPTION | SYMBOL | TIP130/135 | TIP131/136 | TIP132/137 | UNIT |
|---|---|---|---|---|---|
| Collector Emitter Voltage | $V_{CEO}$ | 60 | 80 | 100 | V |
| Collector Base Voltage | $V_{CBO}$ | 60 | 80 | 100 | V |
| Emitter Base Voltage | $V_{EBO}$ | 5.0 | | | V |
| Collector Current Continuous | $I_C$ | 8.0 | | | A |
| Collector Current Peak | $I_{CM}$ | 12 | | | A |
| Base Current | $I_B$ | 0.3 | | | A |
| Power Dissipation upto $T_c$=25ºC | $P_D$ | 70 | | | W |
| Power Dissipation upto $T_a$=25ºC<br>Derate above 25ºC | $P_D$ | 2.0<br>16 | | | W<br>mW/ºC |
| Operating And Storage Junction Temperature | $T_j$ , $T_{stg}$ | - 65 to +150 | | | ºC |

### THERMAL RESISTANCE

| | | | |
|---|---|---|---|
| Junction to Case | $R_{th\ (j\text{-}c)}$ | 1.78 | ºC/W |
| Junction to Ambient in free air | $R_{th\ (j\text{-}a)}$ | 62.5 | ºC/W |

### ELECTRICAL CHARACTERISTICS ($T_c$=25ºC unless specified otherwise)

| DESCRIPTION | SYMBOL | TEST CONDITION | | MIN | MAX | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut off Current | $I_{CEO}$ | $V_{CE}$= Half Rated $V_{CEO}$ | | | 0.5 | mA |
| Collector Cut off Current | $I_{CBO}$ | $V_{CB}$= Rated $V_{CBO}$ | | | 0.2 | mA |
| Emitter Cut off Current | $I_{EBO}$ | $V_{EB}$=5V, $I_C$=0 | | | 5.0 | mA |
| Collector Emitter (sus) Voltage | *$V_{CEO(sus)}$ | $I_C$=30mA, $I_B$=0 | TIP130/135 | 60 | | V |
| | | | TIP131/136 | 80 | | V |
| | | | TIP132/137 | 100 | | V |
| Collector Emitter Saturation Voltage | *$V_{CE\ (sat)}$ | $I_C$=4A, $I_B$=16mA | | | 2.0 | V |
| | | $I_C$=6A, $I_B$=30mA | | | 3.0 | V |
| Base Emitter on Voltage | *$V_{BE(on)}$ | $I_C$=4A, $V_{CE}$=4V | | | 2.5 | V |
| DC Current Gain | *$h_{FE}$ | $I_C$=1A, $V_{CE}$=4V | | 500 | | |
| | | $I_C$=4A, $V_{CE}$=4V | | 1,000 | 15,000 | |

***Pulse Test : Pulse width≤300µs, Duty Cycle ≤2%**

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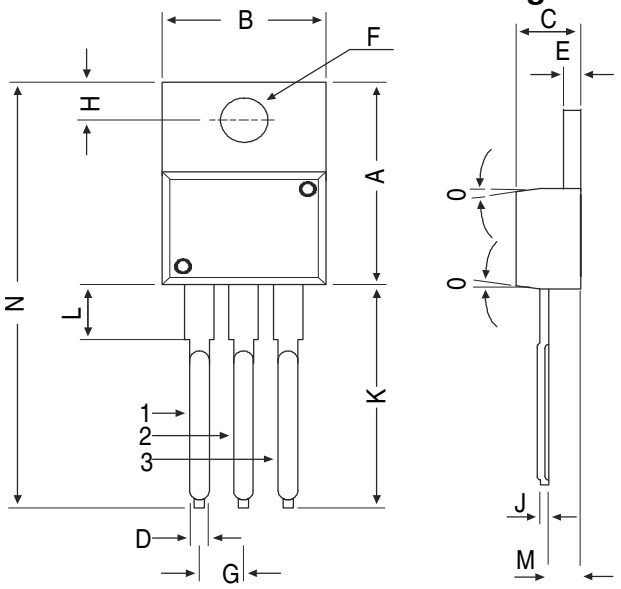
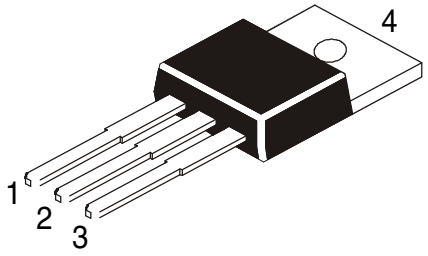
## TO-220 Plastic Package



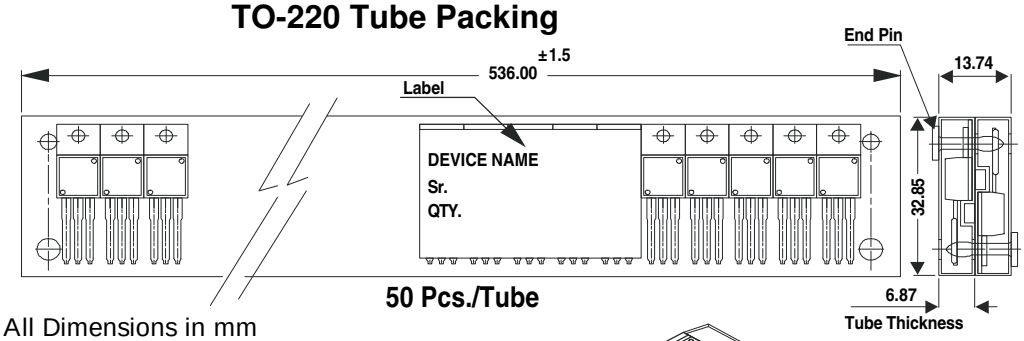

| DIM | MIN | MAX |
|---|---|---|
| A | 14.42 | 16.51 |
| B | 9.63 | 10.67 |
| C | 3.56 | 4.83 |
| D | — | 0.90 |
| E | 1.15 | 1.40 |
| F | 3.75 | 3.88 |
| G | 2.29 | 2.79 |
| H | 2.54 | 3.43 |
| J | — | 0.56 |
| K | 12.70 | 14.73 |
| L | 2.80 | 4.07 |
| M | 2.03 | 2.92 |
| N | — | 31.24 |
| O | 7 DEG | |

All diminsions in mm.




Pin Configuration
1. Base
2. Collector
3. Emitter
4. Collector

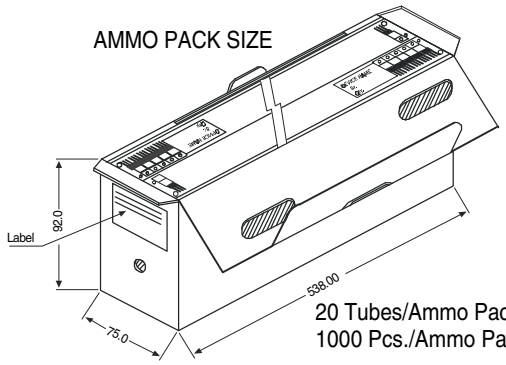
## TO-220 Tube Packing




**50 Pcs./Tube**

All Dimensions in mm

AMMO PACK SIZE




20 Tubes/Ammo Pack
1000 Pcs./Ammo Pack

## 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" | 1.0K | 17" x 15" x 13.5" | 16.0K | 36 kgs |
| | 50 pcs/tube | 120 gm/50 pcs | 3.5" x 3.7" x 21.5" | 1.0K | 19" x 19" x 19" | 10.0K | 29 kgs |

**Notes**



## Disclaimer



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