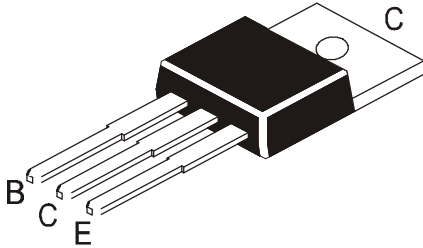


PLASTIC POWER TRANSISTORS

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

**TO-220
Plastic Package**



Intended for use in Linear and Switching Applications

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

| 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 $T_c=25^\circ\text{C}$ | P_D | 70 | | | W |
| Power Dissipation upto $T_a=25^\circ\text{C}$ Derate above 25°C | P_D | 2.0 | | | W |
| | | 16 | | | mW/°C |
| Operating And Storage Junction Temperature | T_j, T_{stg} | - 65 to +150 | | | °C |

THERMAL RESISTANCE

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

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

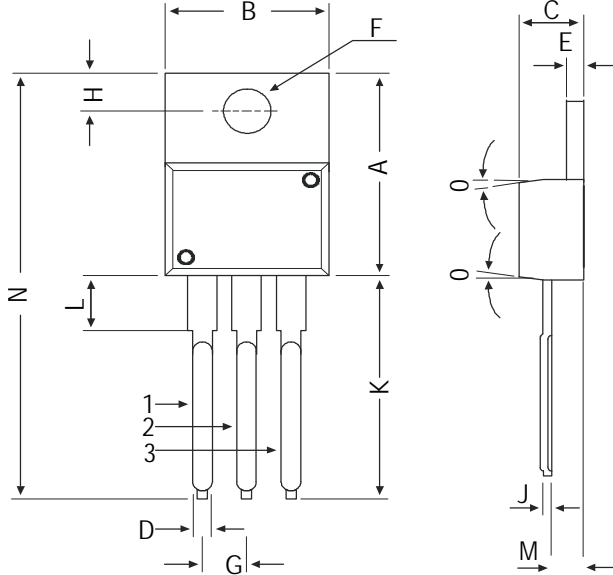
| DESCRIPTION | SYMBOL | TEST CONDITION | MIN | MAX | UNIT |
|--------------------------------------|-----------------|---------------------------------------|-------------------|--------|------|
| Collector Cut off Current | I_{CEO} | $V_{CE} = \text{Half Rated } V_{CEO}$ | | 0.5 | mA |
| Collector Cut off Current | I_{CBO} | $V_{CB} = \text{Rated } V_{CBO}$ | | 0.2 | mA |
| Emitter Cut off Current | I_{EBO} | $V_{EB}=5V, I_C=0$ | | 5.0 | mA |
| Collector Emitter (sus) Voltage | $*V_{CEO(sus)}$ | $I_C=30\text{mA}, I_B=0$ | TIP130/135 | 60 | V |
| | | | TIP131/136 | 80 | V |
| | | | TIP132/137 | 100 | V |
| Collector Emitter Saturation Voltage | $*V_{CE(sat)}$ | $I_C=4A, I_B=16\text{mA}$ | | 2.0 | V |
| | | $I_C=6A, I_B=30\text{mA}$ | | 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 $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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

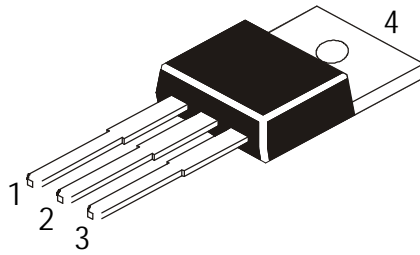
TO-220
Plastic Package

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 | 1.40 |
| 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 | |

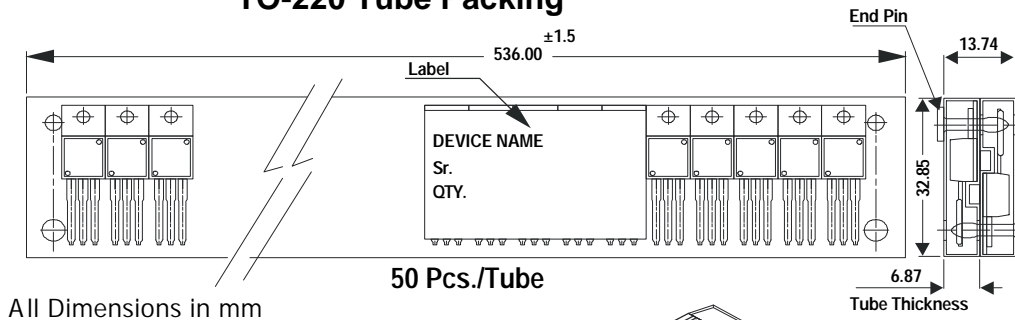
All dimensions in mm.



Pin Configuration

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

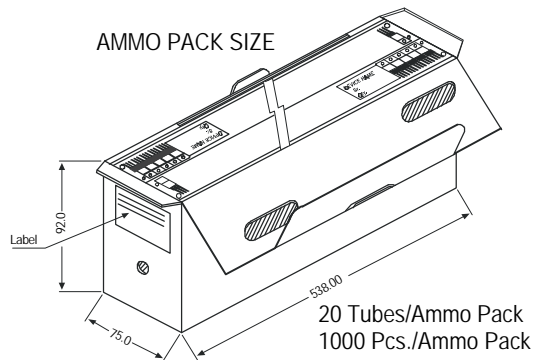
TO-220 Tube Packing



All Dimensions in mm

50 Pcs./Tube

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 50 pcs/tube | 396 gm/200 pcs 120 gm/50 pcs | 3" x 7.5" x 7.5" 3.5" x 3.7" x 21.5" | 1.0K 1.0K | 17" x 15" x 13.5" 19" x 19" x 19" | 16.0K 10.0K | 36 kgs 29 kgs |