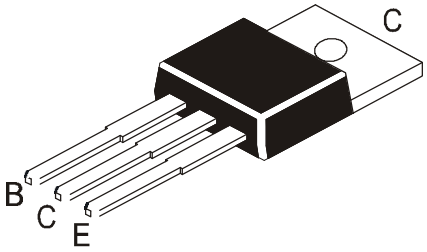
# NPN SILICON PLANAR POWER TRANSISTOR

**BU508AT**




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

## High Voltage, High-Speed Switching Transistor
## Intended for use in Horizontal Deflection Circuits of Colour Televisions

### ABSOLUTE MAXIMUM RATINGS

| DESCRIPTION | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Collector Emitter Voltage | $V_{CES}$ | 1500 | V |
| Collector Emitter Voltage | $V_{CEO}$ | 700 | V |
| Collector Current (DC) | $I_C$ | 8 | A |
| Collector Current (Peak) | $I_{CM}$ | 15 | A |
| Base Current (DC) | $I_B$ | 4 | A |
| Base Current (Peak) | $I_{BM}$ | 6 | A |
| Reverse Base Current (DC or average over any 20 ms period) | $-I_{B(AV)}$ | 100 | mA |
| Reverse Base Current (Peak Value) | $*-I_{BM}$ | 5 | A |
| Power Dissipation upto $T_c$=25ºC | $P_{tot}$ | 60 | W |
| Operating and Storage Junction Temperature Range | $T_j$, $T_{stg}$ | - 65 to +150 | ºC |

***Turn off Current**

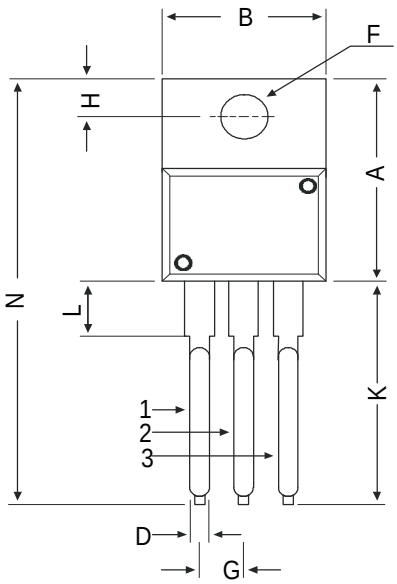
### ELECTRICAL CHARACTERISTICS ($T_c$=25ºC unless specified otherwise)

| DESCRIPTION | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Collector Cut off Current | $**I_{CES}$ | $V_{CE}=V_{CES}$ max, $V_{BE}$=0 | | | 1.0 | mA |
| | | $T_j$=125ºC | | | | |
| | | $V_{CE}=V_{CES}$ max, $V_{BE}$=0 | | | 2.0 | mA |
| Emitter Cut off Current | $I_{EBO}$ | $V_{EB}$=6V, $I_C$=0 | | | 10 | mA |
| Collector Emitter Sustaining Voltage | $*V_{CEO(sus)}$ | $I_C$=100mA, $I_B$=0, L=25mH | 700 | | | V |
| DC Current Gain | $*h_{FE}$ | $I_C$=4.5A, $V_{CE}$=5V | 2.25 | | | |
| Collector Emitter Saturation Voltage | $*V_{CE(sat)}$ | $I_C$=4.5A, $I_B$=2A | | | 1.0 | V |
| Base Emitter Saturation Voltage | $*V_{BE(sat)}$ | $I_C$=4.5A, $I_B$=2A | | | 1.3 | V |
| Transition Frequency | $f_T$ | $I_C$=0.1A, $V_{CE}$=5V, f=5MHz | | 7 | | MHz |
| Collector Capacitance | $C_C$ | $I_E$=ie=0, $V_{CB}$=10V, f=1MHz | | 125 | | pF |

****Measured with half-sinewave Voltage (curve tracer)**

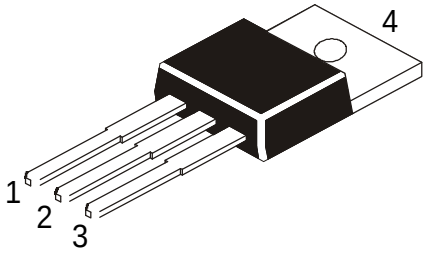
***Pulse Test: Pulse Width=5ms, Duty Cycle≤10%**

## TO-220 Plastic Package



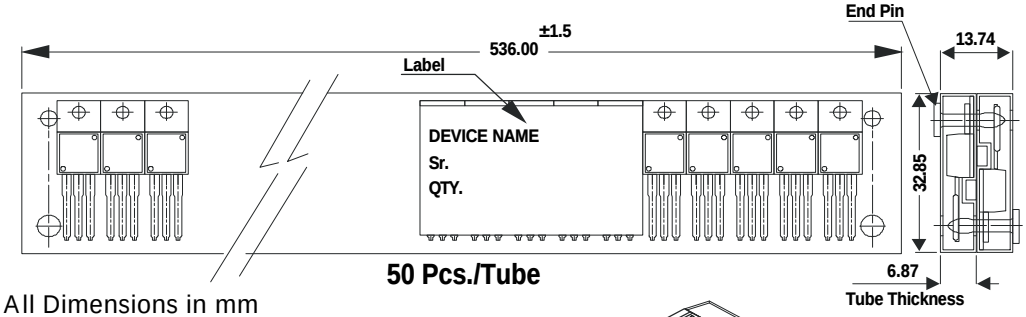

| DIM | MIN | MAX |
|---|---|---|
| A | 14.42 | 16.51 |
| B | 9.63 | 10.67 |
| C | 3.56 | 4.83 |
| D | — | 0.90 |
| E | 1.15 | 1.40 |
| F | 3.75 | 3.88 |
| G | 2.29 | 2.79 |
| H | 2.54 | 3.43 |
| J | — | 0.56 |
| K | 12.70 | 14.73 |
| L | 2.80 | 4.07 |
| M | 2.03 | 2.92 |
| N | — | 31.24 |
| O | 7 DEG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

All diminsions in mm.




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

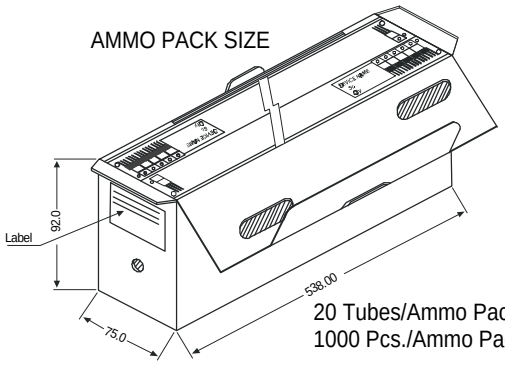
## TO-220 Tube Packing




**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 /FP | 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 |

## Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.

CDIL is a registered Trademark of
Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290
e-mail sales@cdil.com www.cdil.com www.cdilsemi.com