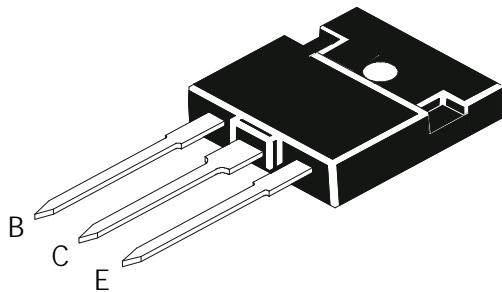


## NPN POWER TRANSISTORS



**BU508F, BU508AF,  
BU508DF**

**TO- 3P Fully Isolated  
Plastic Package**

**Fast Switching, High Voltage Devices for use in Horizontal Deflection Circuits of Colour TV**

### ABSOLUTE MAXIMUM RATINGS

| DESCRIPTION   | SYMBOL    | VALUE        | UNIT       |
|---|-----------|--------------|------------|
| Collector -Emitter Voltage  | $V_{CES}$ | 1500         | V          |
| Collector -Emitter Voltage  | $V_{CEO}$ | 700          | V          |
| Emitter Base Voltage  | $V_{EBO}$ | 5            | V          |
| Collector Current   | $I_C$     | 8            | A          |
| Collector Peak Current  | $I_{CM}$  | 15           |            |
| Total Power Dissipation upto $T_a=25^\circ C$<br>$T_c=25^\circ C$ | $P_{tot}$ | 34<br>60     | W          |
| Storage Temperature Range   | $T_{stg}$ | - 65 to +150 | $^\circ C$ |
| Max Operating Junction Temperature                                | $T_j$     | 150          | $^\circ C$ |

### THERMAL RESISTANCE

|                                    |               |      |              |
|------------------------------------|---------------|------|--------------|
| Thermal Resistance Junction - Case | $R_{th(j-c)}$ | 2.08 | $^\circ C/W$ |
|------------------------------------|---------------|------|--------------|

### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ C$ unless specified otherwise)

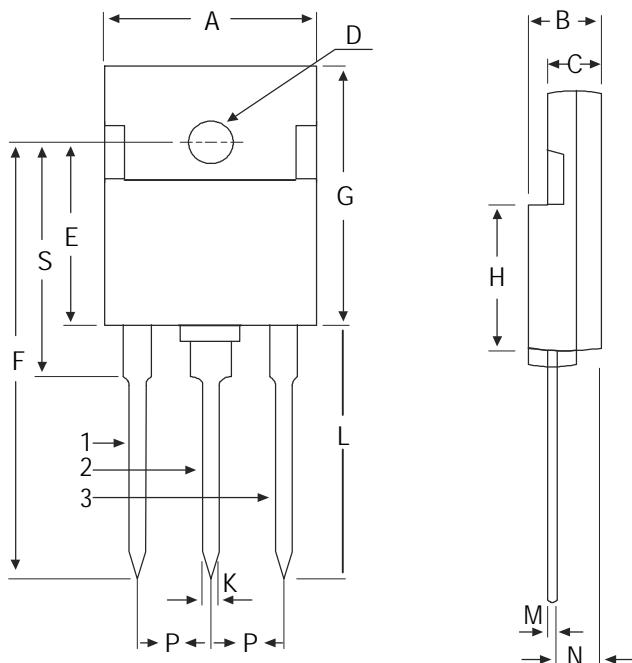
| DESCRIPTION                          | SYMBOL           | TEST CONDITIONS                            | MIN  | TYP | MAX | UNIT |
|--------------------------------------|------------------|--|------|-----|-----|------|
| Collector Cut off Current            | $I_{CES}$        | $V_{CE}=V_{CES}, V_{BE}=0$                 |      |     | 1.0 | mA   |
| Collector Emitter Sustaining Voltage | $V_{CEO(sus)}^*$ | $I_B=0, I_C=100mA$                         | 700  |     |     | V    |
| Emitter Base Voltage                 | $V_{EBO}$        | $I_E=10mA, I_C=0$<br><b>BU508F, AF</b>     | 5.0  |     |     | V    |
| Emitter Cut-off Current              | $I_{EBO}$        | $V_{EB}=5V, I_C=0$<br><b>BU508DF</b>       |      |     | 300 | mA   |
| DC Current Gain                      | $h_{FE}$         | $I_C=4.5A, V_{CE}=5V$                      | 2.25 |     |     |      |
| Diode forward Voltage                | $V_F$            | $I_F=4.0A$<br><b>BU508DF</b>               |      |     | 2.0 | V    |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}^*$  | $I_C=4.5A, I_B=2.0A$<br><b>BU508AF, DF</b> |      |     | 1.0 | V    |
|                                      |                  | $I_C=4.5A, I_B=2.0A$<br><b>BU508F</b>      |      |     | 5.0 | V    |
| Base Emitter Saturation Voltage      | $V_{BE(sat)}^*$  | $I_C=4.5A, I_B=2.0A$                       |      |     | 1.5 | V    |

### SWITCHING TIME

|              |       |                                     |  |     |  |         |
|--------------|-------|-------------------------------------|--|-----|--|---------|
| Storage Time | $t_s$ | $I_C=4.5A, h_{FE}=2.5, V_{CC}=140V$ |  | 7.0 |  | $\mu s$ |
| Fall Time    | $t_f$ | $L_C=0.9mH, L_B=3\mu H$             |  | 0.5 |  | $\mu s$ |

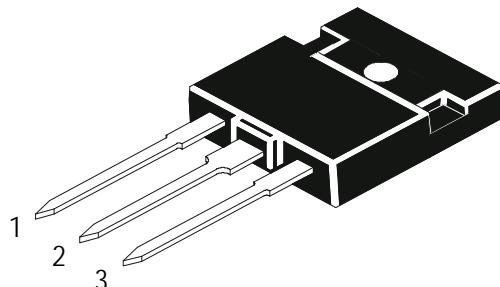
\* Pulse test: Pulse Duration  $\leq 300\text{ms}$ , Duty cycle  $\leq 1.5\%$ .

TO-3P (TO-218) Plastic Package



| DIM | MIN    | MAX    |
|-----|--------|--------|
| A   | 15.80  | 16.40  |
| B   | 5.20   | 5.70   |
| C   | 3.80   | 4.20   |
| D   | Ø 3.30 | Ø 3.60 |
| E   | 14.50  | 15.10  |
| F   | 33.25  | 36.75  |
| G   | 20.75  | 21.25  |
| H   | 11.50  | 12.25  |
| K   | 1.00   | 1.30   |
| L   | 18.75  | 21.65  |
| M   | 0.40   | 0.60   |
| N   | 3.15   | 3.45   |
| P   | 5.21   | 5.72   |
| S   | 18.75  | 19.25  |

All dimensions in mm.



Pin Configuration

1. Base
2. Collector
3. Emitter

Packing Detail

| PACKAGE | STANDARD PACK   |                | INNER CARTON BOX |      | OUTER CARTON BOX  |      |        |
|---------|-----------------|----------------|------------------|------|-------------------|------|--------|
|         | Details         | Net Weight/Qty | Size             | Qty  | Size              | Qty  | Gr Wt  |
| TO-3P   | 100 pcs/polybag | 628 gm/100 pcs | 3" x 7.5" x 7.5" | 0.3K | 17" x 15" x 13.5" | 4.8K | 42 kgs |

### **Disclaimer**

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