

**isc Silicon NPN Power Transistor**

**BU104**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 150V(\text{Min.})$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 2.5V(\text{Max.}) @ I_C = 7A$

**APPLICATIONS**

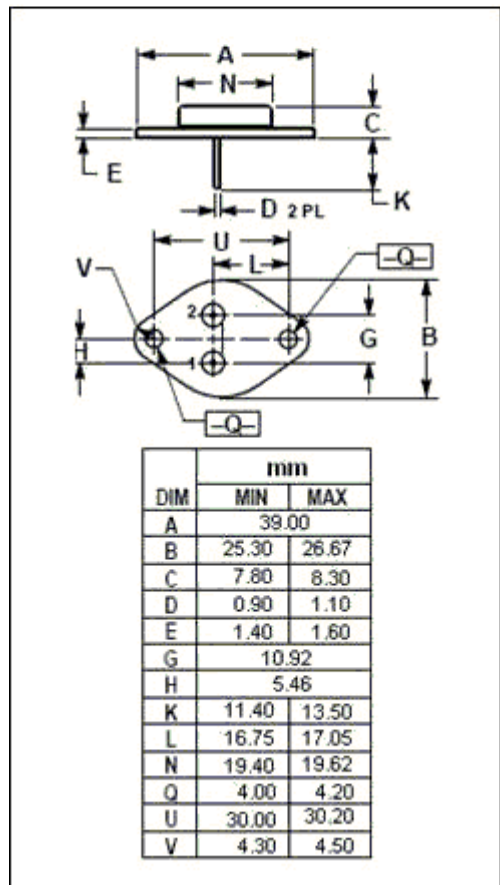
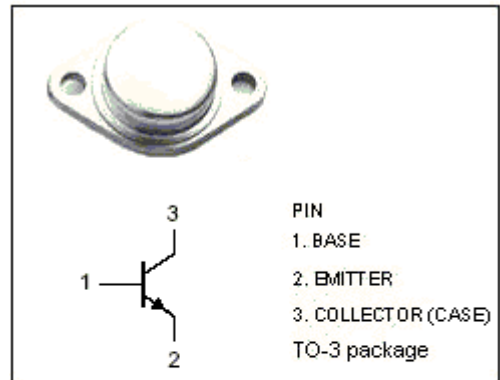
- Designed for use in horizontal deflexion output stage of B/W TV receivers.

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                    | 400     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 150     | V                |
| $V_{CEX}$ | Collector-Emitter Voltage $V_{BE} = -5V$                  | 400     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                      | 10      | V                |
| $I_C$     | Collector Current-Continuous                              | 7       | A                |
| $I_{CM}$  | Collector Current-Peak Repetitive                         | 15      | A                |
| $I_B$     | Base Current-Continuous                                   | 3       | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C = 25^\circ\text{C}$ | 85      | W                |
| $T_J$     | Junction Temperature                                      | 200     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -65~200 | $^\circ\text{C}$ |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX | UNIT               |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.0 | $^\circ\text{C/W}$ |



**isc Silicon NPN Power Transistor****BU104****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                                | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|---|-----|------|-----|------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C= 50\text{mA}; I_B= 0$                | 150 |      |     | V    |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C= 7\text{A}; I_B= 1\text{A}$          |     |      | 2.5 | V    |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C= 7\text{A}; I_B= 1\text{A}$          |     |      | 2.5 | V    |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}= 250\text{V}; I_E= 0$             |     |      | 0.5 | mA   |
| $I_{CEX}$     | Collector Cutoff Current             | $V_{CE}= 400\text{V}; V_{BE}= -5\text{V}$ |     |      | 1.0 | mA   |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}= 10\text{V}; I_C= 0$              |     |      | 10  | mA   |
| $h_{FE}$      | DC Current Gain                      | $I_C= 5\text{A}; V_{CE}= 1.75\text{V}$    | 10  |      | 50  |      |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C= 0.5\text{A}; V_{CE}= 10\text{V}$    |     | 10   |     | MHz  |