

**isc Silicon NPN Power Transistors**

**BD751/751A**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 90V(\text{Min})$ - BD751  
=  $120V(\text{Min})$ - BD751A
- High Power Dissipation
- Complement to Type BD750/750A

**APPLICATIONS**

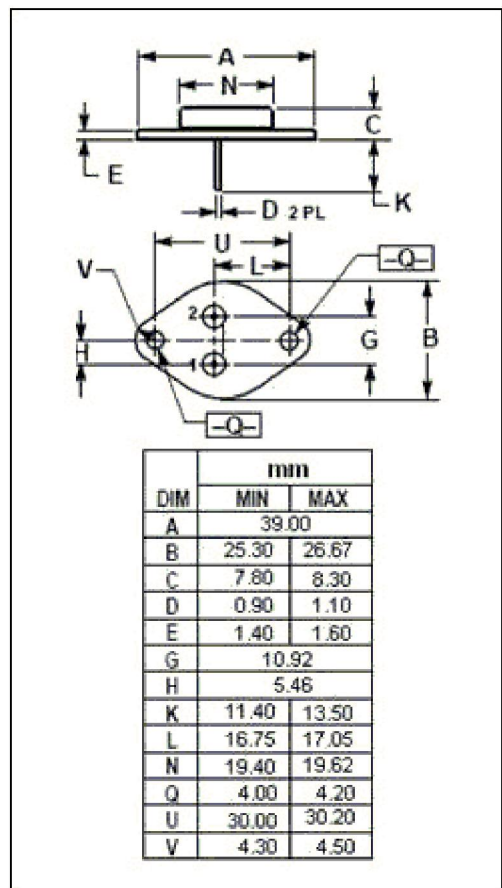
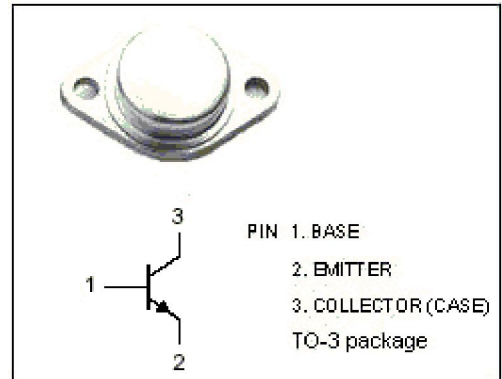
- Designed for high voltage and high power amplifier applications.

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

| SYMBOL         | PARAMETER   | VALUE   | UNIT             |   |
|----------------|---|---------|------------------|---|
| $V_{CEV}$      | Collector-Emitter Voltage                           | BD751   | 100              | V |
|                |   | BD751A  | 130              |   |
| $V_{CEO(SUS)}$ | Collector-Emitter Voltage                           | BD751   | 90               | V |
|                |   | BD751A  | 120              |   |
| $V_{EBO}$      | Emitter-Base Voltage                                | 7       | V                |   |
| $I_C$          | Collector Current-Continuous                        | 20      | A                |   |
| $I_B$          | Base Current-Continuous                             | 5       | A                |   |
| $P_C$          | Collector Power Dissipation@ $T_c=25^\circ\text{C}$ | 200     | W                |   |
| $T_J$          | Junction Temperature                                | 200     | $^\circ\text{C}$ |   |
| $T_{stg}$      | Storage Temperature                                 | -65~200 | $^\circ\text{C}$ |   |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX   | UNIT               |
|---------------|--------------------------------------|-------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.875 | $^\circ\text{C/W}$ |



## isc Silicon NPN Power Transistors

## BD751/751A

## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL         | PARAMETER                            | CONDITIONS   | MIN  | TYP. | MAX  | UNIT |
|----------------|--------------------------------------|--|--|------|--|------|
| $V_{CEQ(SUS)}$ | Collector-Emitter Sustaining Voltage | BD751  | $I_C=100\text{mA}; I_B=0$                      |      |  | V    |
|                |                                      | BD751A   |  |      |  |      |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | BD751  | $I_C=7.5\text{A}; I_B=0.75\text{A}$            |      | 1.5  | V    |
|                |                                      | BD751A   |  |      | $I_C=5\text{A}; I_B=0.5\text{A}$               |      |
| $V_{BE(sat)}$  | Base-Emitter Saturation Voltage      | BD751  | $I_C=7.5\text{A}; I_B=0.75\text{A}$            |      | 1.8  | V    |
|                |                                      | BD751A   |  |      | $I_C=5\text{A}; I_B=0.5\text{A}$               |      |
| $I_{CEV}$      | Collector Cutoff Current             | BD751  | $V_{CEV}=100\text{V}; V_{BE(off)}=1.5\text{V}$ |      | 0.5  | mA   |
|                |                                      | BD751A   |  |      | $V_{CEV}=130\text{V}; V_{BE(off)}=1.5\text{V}$ |      |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB}=7\text{V}; I_C=0$                                  |  |      | 1.0  | mA   |
| $h_{FE}$       | DC Current Gain                      | BD751  | $I_C=7.5\text{A}; V_{CE}=2\text{V}$            |      | 60   |      |
|                |                                      | BD751A   |  |      | $I_C=5\text{A}; V_{CE}=2\text{V}$              |      |
| $f_T$          | Current-Gain—Bandwidth Product       | $I_C=0.5\text{A}; V_{CE}=10\text{V}; f_{test}=1\text{MHz}$ | 4  |      |  | MHz  |