

isc Silicon NPN Power Transistor

BD801

DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 100V(\text{Min})$
- Low Saturation Voltage
- Complement to Type BD802

APPLICATIONS

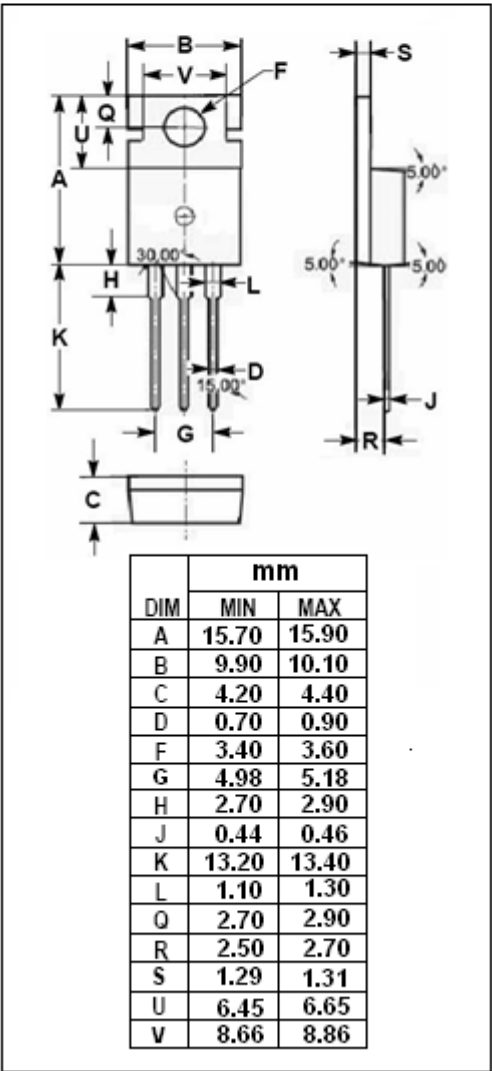
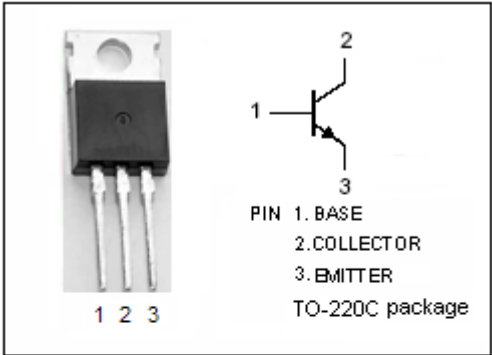
- Designed for a wide variety of medium-power switching and amplifier applications , such as series and shunt regulators and driver and output stages of high-fidelity amplifiers.

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

| SYMBOL    | PARAMETER                                               | VALUE   | UNIT               |
|-----------|---------------------------------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 100     | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 100     | V                  |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 5       | V                  |
| $I_C$     | Collector Current-Continuous                            | 8       | A                  |
| $I_B$     | Base Current-Continuous                                 | 3       | A                  |
| $P_C$     | Collector Power Dissipation<br>$T_c=25^{\circ}\text{C}$ | 65      | W                  |
| $T_j$     | Junction Temperature                                    | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Ttemperature Range                              | -55~150 | $^{\circ}\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                            | MAX  | UNIT                 |
|---------------|--------------------------------------|------|----------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.92 | $^{\circ}\text{C/W}$ |



**isc Silicon NPN Power Transistor****BD801****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL         | PARAMETER                            | CONDITIONS                                                  | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|-------------------------------------------------------------|-----|------|-----|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=100\text{mA}; I_B=0$                                   | 100 |      |     | V    |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C=3\text{A}; I_B=0.3\text{A}$                            |     |      | 1   | V    |
| $V_{BE(on)}$   | Base-Emitter On Voltage              | $I_C=3\text{A}; V_{CE}=2\text{V}$                           |     |      | 1.6 | V    |
| $I_{CBO}$      | Collector Cutoff Current             | $V_{CB}=100\text{V}; I_E=0$                                 |     |      | 0.1 | mA   |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB}=5\text{V}; I_C=0$                                   |     |      | 1   | mA   |
| $h_{FE-1}$     | DC Current Gain                      | $I_C=1\text{A}; V_{CE}=2\text{V}$                           | 30  |      |     |      |
| $h_{FE-2}$     | DC Current Gain                      | $I_C=3\text{A}; V_{CE}=2\text{V}$                           | 15  |      |     |      |
| $f_T$          | Current-Gain—Bandwidth Product       | $I_C=0.25\text{A}; V_{CE}=10\text{V}, f_{test}=1\text{MHz}$ | 3   |      |     | MHz  |