

isc Silicon NPN Power Transistor

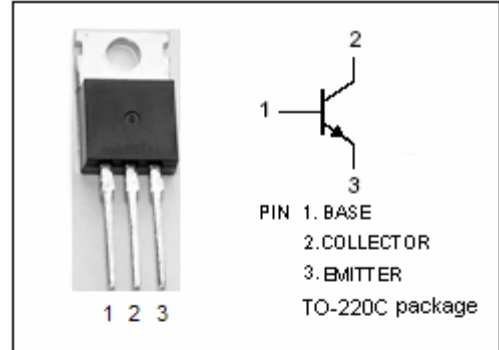
BD907

DESCRIPTION

- DC Current Gain -
: $h_{FE} = 40 @ I_C = 0.5A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 60V(\text{Min})$
- Complement to Type BD908

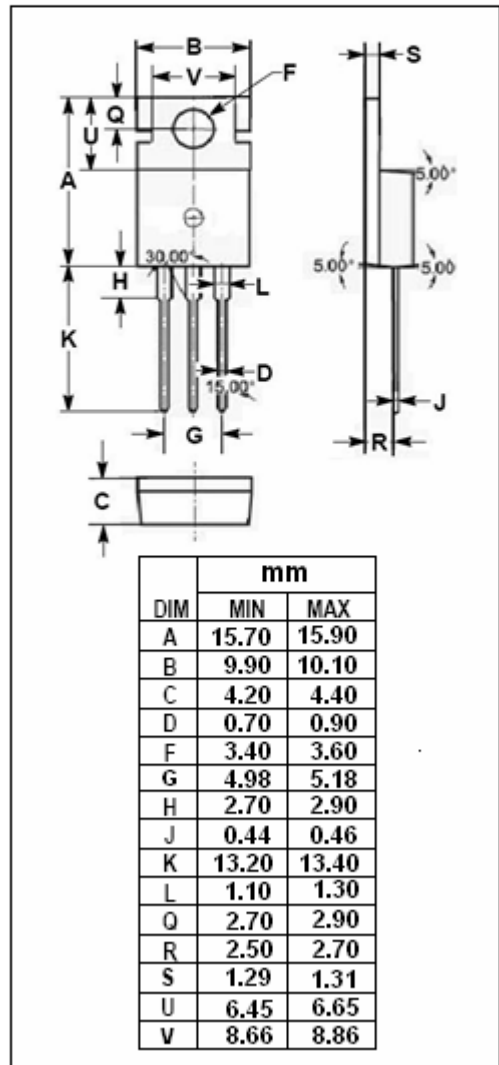
APPLICATIONS

- Designed for use in general purpose power amplifier and switching applications.



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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 15 | A |
| I_{CM} | Collector Current-Peak | 20 | A |
| I_B | Base Current | 5 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 90 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -65~150 | $^\circ\text{C}$ |



THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.38 | $^\circ\text{C/W}$ |

isc Silicon NPN Power Transistor**BD907****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|-----------------|--------------------------------------|--|-----|-----|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C= 50\text{mA}; I_B= 0$ | 60 | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C= 5\text{A}; I_B= 0.5\text{A}$ | | 1.0 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C= 10\text{A}; I_B= 2.5\text{A}$ | | 3.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C= 10\text{A}; I_B= 2.5\text{A}$ | | 2.5 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C= 5\text{A}; V_{CE}= 4\text{V}$ | | 1.5 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB}= 60\text{V}; I_E= 0$ | | 0.5 | mA |
| I_{CEO} | Collector Cutoff Current | $V_{CE}= 30\text{V}; I_B= 0$ | | 1.0 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}= 5\text{V}; I_C= 0$ | | 1.0 | mA |
| h_{FE-1} | DC Current Gain | $I_C= 0.5\text{A}; V_{CE}= 4\text{V}$ | 40 | 250 | |
| h_{FE-2} | DC Current Gain | $I_C= 5\text{A}; V_{CE}= 4\text{V}$ | 15 | 150 | |
| h_{FE-3} | DC Current Gain | $I_C= 10\text{A}; V_{CE}= 4\text{V}$ | 5 | | |
| f_T | Current-Gain—Bandwidth Product | $I_C= 0.5\text{A}; V_{CE}= 4\text{V}; f_{test}= 1.0\text{MHz}$ | 3.0 | | MHz |