

isc Silicon NPN Power Transistor

BD315

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain- $h_{FE}= 25(\text{Min.})@I_C = 8\text{A}$
- Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})}= 1.0\text{ V}(\text{Max})@ I_C = 8\text{A}$
- Complement to Type BD316

APPLICATIONS

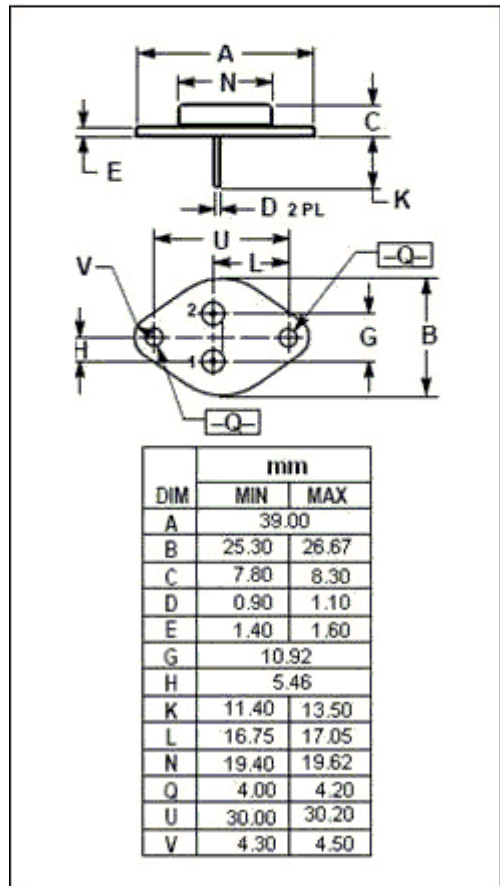
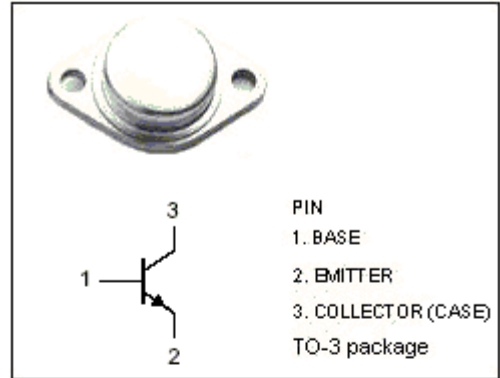
- Designed for high quality amplifiers operating up to 100 watts into 4 ohm load.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 80 | V |
| V_{CEO} | Collector-Emitter Voltage | 80 | V |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current-Continuous | 16 | A |
| I_{CM} | Collector Current-Peak | 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 |
|----------------------|--------------------------------------|-------|--------------------|
| $R_{\text{th } j-c}$ | Thermal Resistance, Junction to Case | 0.875 | $^\circ\text{C/W}$ |



isc Silicon NPN Power Transistor**BD315****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|----------------|--------------------------------------|--------------------------------------|-----|-----|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=200\text{mA}; I_B=0$ | 80 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C= 8\text{A}; I_B= 0.8\text{A}$ | | 1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C= 8\text{A}; I_B= 0.8\text{A}$ | | 1.8 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C= 8\text{A}; V_{CE}= 2\text{V}$ | | 1.5 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB}= 80\text{V}; I_B=0$ | | 1.0 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}= 7\text{V}; I_C=0$ | | 1.0 | mA |
| h_{FE-1} | DC Current Gain | $I_C= 8\text{A}; V_{CE}= 4\text{V}$ | 25 | | |
| h_{FE-2} | DC Current Gain | $I_C= 10\text{A}; V_{CE}= 4\text{V}$ | 15 | | |
| f_T | Current Gain-Bandwidth Product | $I_C= 1\text{A}; V_{CE}= 20\text{V}$ | 1 | | MHz |