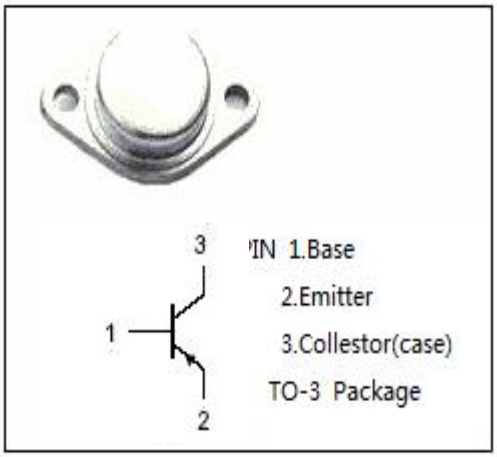
# isc Silicon PNP Power Transistor BD316

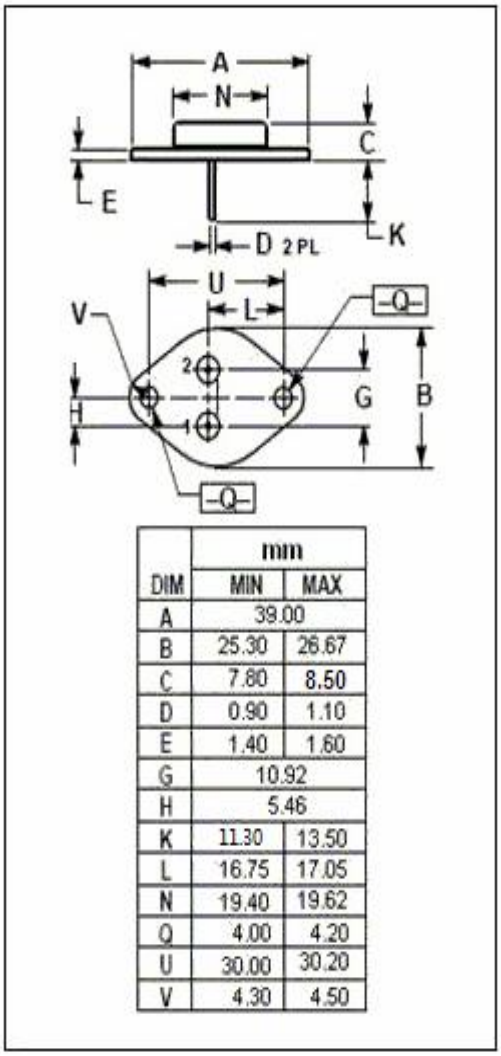
## DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-$h_{FE}$= 25(Min.)@$I_C$ = -8A
- Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= -1.0 V(Max)@ $I_C$ = -8A
- Complement to Type BD315
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## APPLICATIONS

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




| DIM | mm MIN | MAX |
|---|---|---|
| A | 39.00 | |
| B | 25.30 | 26.67 |
| C | 7.80 | 8.50 |
| D | 0.90 | 1.10 |
| E | 1.40 | 1.60 |
| G | 10.92 | |
| H | 5.46 | |
| K | 11.30 | 13.50 |
| L | 16.75 | 17.05 |
| N | 19.40 | 19.62 |
| Q | 4.00 | 4.20 |
| U | 30.00 | 30.20 |
| V | 4.30 | 4.50 |

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| 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℃ | 200 | W |
| $T_J$ | Junction Temperature | 200 | ℃ |
| $T_{stg}$ | Storage Temperature | -65~200 | ℃ |

## THERMAL CHARACTERISTICS

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

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$=-30mA; $I_B$=0 | -80 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= -8A; $I_B$= -0.8A | | -1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= -8A; $I_B$= -0.8A | | -1.8 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$= -8A; $V_{CE}$= -2V | | -1.5 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -80V; $I_B$= 0 | | -1.0 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -7V; $I_C$= 0 | | -1.0 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= -8A; $V_{CE}$= -4V | 25 | | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= -10A; $V_{CE}$= -4V | 15 | | |
| $f_T$ | Current Gain-Bandwidth Product | $I_C$= -1A; $V_{CE}$= -20V | 1 | | MHz |