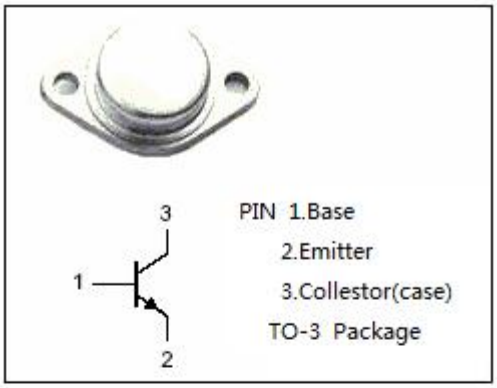
# isc Silicon NPN Power Transistor — BUX47A

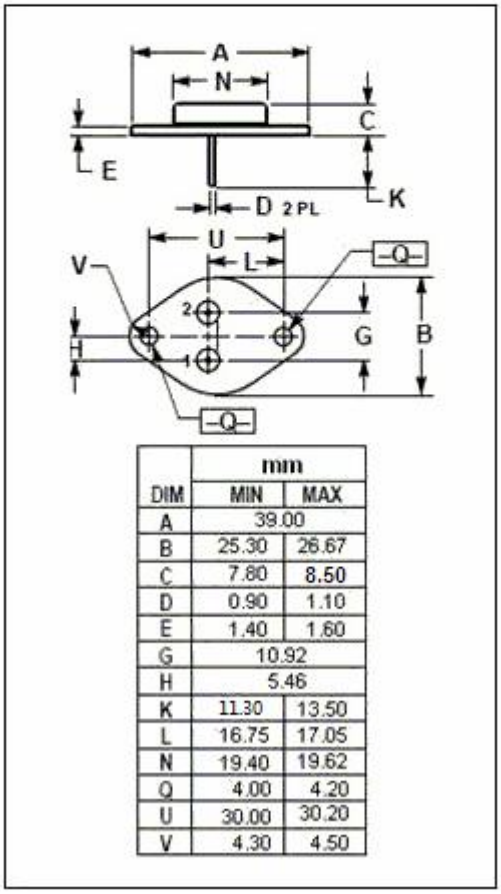
## DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 450V (Min)
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

Designed for high voltage, fast switching applications.




| 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(Ta=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CER}$ | Collector-Emitter Voltage ($R_{BE}$= 10Ω) | 1000 | V |
| $V_{CES}$ | Collector-Emitter Voltage ($V_{BE}$= 0) | 900 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 450 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 7 | V |
| $I_C$ | Collector Current-Continuous | 9 | A |
| $I_{CM}$ | Collector Current-Peak $t_p$< 5ms | 15 | A |
| $I_B$ | Base Current-Continuous | 8 | A |
| $I_{BM}$ | Base Current-peak $t_p$< 5ms | 10 | A |
| $P_C$ | Collector Power Dissipation @$T_C$=25℃ | 125 | W |
| $T_j$ | Junction Temperature | 175 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~175 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 1.2 | ℃/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 | $I_C$=50mA; $I_B$= 0 | 450 | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 50mA; $I_C$= 0 | 7 | 30 | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= 5A; $I_B$= 1A | | 1.5 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$= 8A; $I_B$= 2.5A | | 3.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 5A; $I_B$= 1A | | 1.6 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$=850V; $I_E$= 0<br>$V_{CB}$=850V; $I_E$= 0; $T_C$=125℃ | | 0.15<br>1.5 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 5V; $I_C$= 0 | | 1.0 | mA |