

**isc Silicon NPN Power Transistor**

**3DD104D**

**DESCRIPTION**

- With TO-3 packaging
- Large collector current
- Low collector saturation voltage
- High power dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

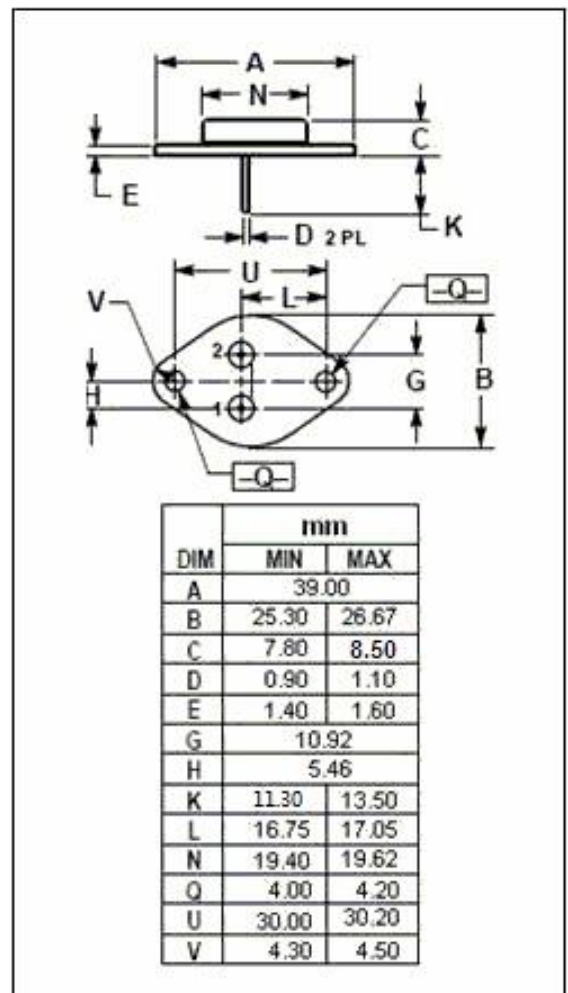
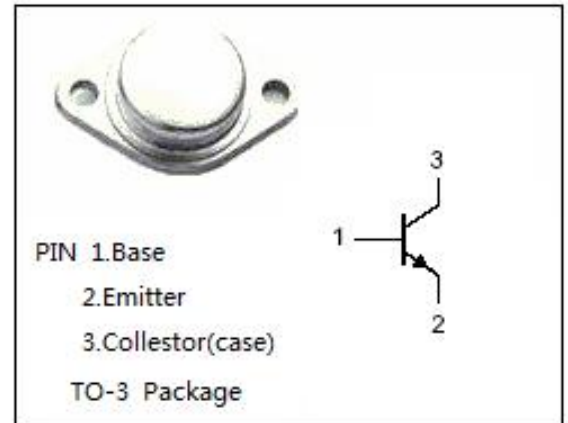
- Designed for use in DC-DC converter
- Driver of solenoid or motor

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

| SYMBOL           | PARAMETER                                    | VALUE   | UNIT |
|------------------|--|---------|------|
| V <sub>CBO</sub> | Collector-Base Voltage                       | 1200    | V    |
| V <sub>CEO</sub> | Collector-Emitter Voltage                    | 600     | V    |
| V <sub>EBO</sub> | Emitter-Base Voltage                         | 8       | V    |
| I <sub>c</sub>   | Collector Current-Continuous                 | 3       | A    |
| P <sub>D</sub>   | Total Power Dissipation@T <sub>c</sub> =75°C | 50      | W    |
| T <sub>J</sub>   | Max.Junction Temperature                     | 175     | °C   |
| T <sub>stg</sub> | Storage Temperature                          | -55~175 | °C   |

**THERMAL CHARACTERISTICS**

| SYMBOL              | PARAMETER                           | MAX | UNIT |
|---------------------|-------------------------------------|-----|------|
| R <sub>th j-c</sub> | Thermal Resistance,Junction to Case | 2.0 | °C/W |



**isc Silicon NPN Power Transistor****3DD104D****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                             | MIN  | MAX | UNIT |
|---------------|--------------------------------------|--|------|-----|------|
| $BV_{CEO}$    | Collector-Emitter Sustaining Voltage | $I_C= 5\text{mA}; I_B= 0$              | 600  |     | V    |
| $BV_{CBO}$    | Collector-Base Sustaining Voltage    | $I_C= 5\text{mA}; I_E= 0$              | 1200 |     | V    |
| $BV_{EBO}$    | Emitter-Base Sustaining Voltage      | $I_E= 5\text{mA}; I_C= 0$              | 8    |     | V    |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C= 3\text{A}; I_B= 1\text{A}$       |      | 4   | V    |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}= 500\text{V}; I_E= 0$          |      | 0.1 | mA   |
| $h_{FE}$      | DC Current Gain                      | $I_C= 1.5\text{A}; V_{CE}= 10\text{V}$ | 10   |     |      |