

**isc Silicon NPN Power Transistor**

**3DD103E**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 800V(\text{Min.})$
- DC Current Gain-  
:  $h_{FE} = 10(\text{Min.})@I_C = 1.5A$
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 4V(\text{Max})@I_C = 3A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

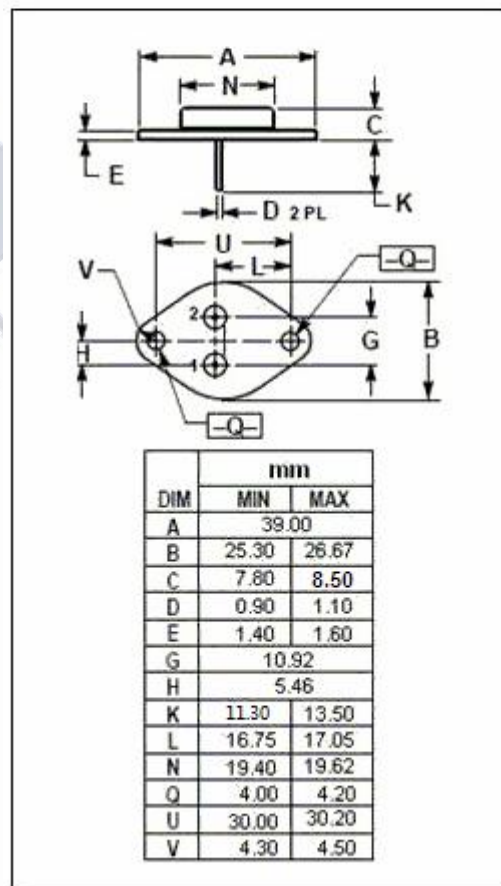
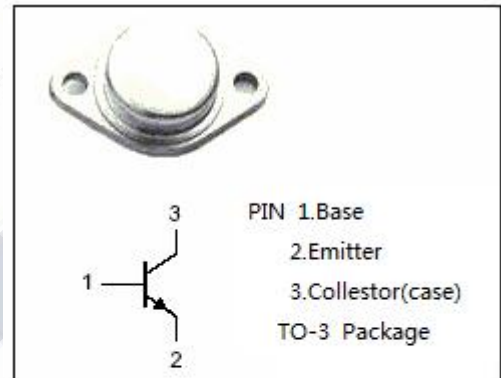
- Designed for power amplifier , DC-DC converts

**ABSOLUTE MAXIMUM RATINGS(Ta=25°C)**

| SYMBOL    | PARAMETER                                     | VALUE   | UNIT |
|-----------|---|---------|------|
| $V_{CBO}$ | Collector-Base Voltage                        | 1500    | V    |
| $V_{CEO}$ | Collector-Emitter Voltage                     | 800     | V    |
| $V_{EBO}$ | Emitter-Base Voltage                          | 8       | V    |
| $I_C$     | Collector Current-Continuous                  | 3       | A    |
| $P_C$     | Collector Power Dissipation@ $T_C=75^\circ C$ | 50      | W    |
| $T_J$     | Junction Temperature                          | 150     | °C   |
| $T_{stg}$ | Storage Temperature                           | -55~150 | °C   |

**THERMAL CHARACTERISTICS**

| SYMBOL       | PARAMETER                           | MAX | UNIT |
|--------------|-------------------------------------|-----|------|
| $R_{th j-c}$ | Thermal Resistance,Junction to Case | 1.5 | °C/W |



**isc Silicon NPN Power Transistors****3DD103E****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                            | CONDITIONS                           | MIN  | MAX | UNIT |
|---------------|--------------------------------------|--------------------------------------|------|-----|------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C=5\text{mA}; I_B=0$              | 800  |     | V    |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage     | $I_C=5\text{mA}; I_E=0$              | 1500 |     | V    |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown 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   |     |      |