

**isc Silicon NPN Power Transistor**
**BDX61**
**DESCRIPTION**

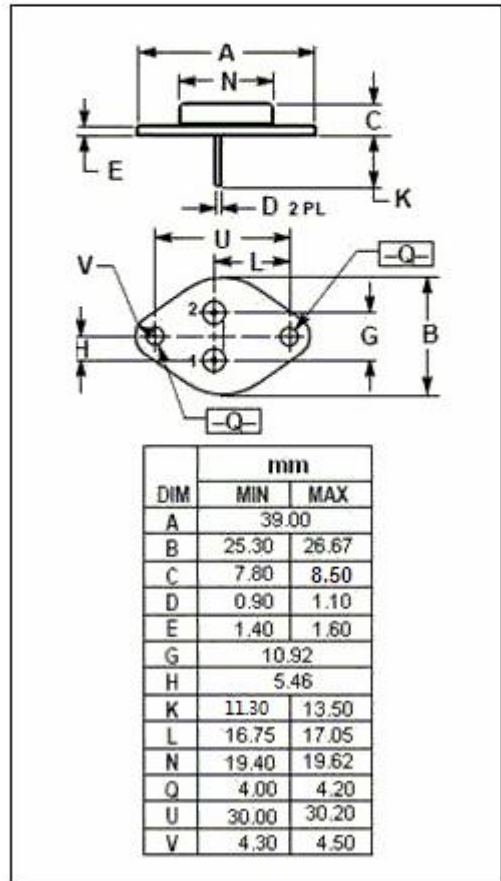
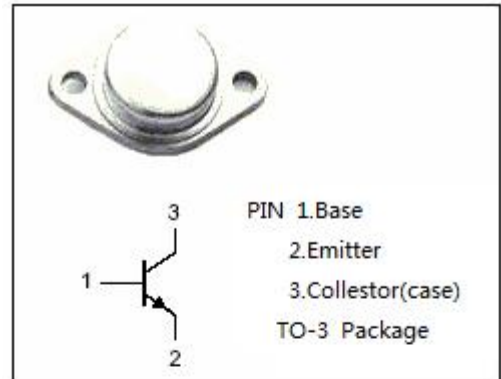
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 60V$  (Min)
- High Current Capability
- Wide area of safe operation
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for high power audio, disk head positioners and other linear applications.

**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ C$ )**

| SYMBOL    | PARAMETER                    | VALUE   | UNIT       |
|-----------|------------------------------|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage       | 80      | V          |
| $V_{CEO}$ | Collector-Emitter Voltage    | 60      | V          |
| $V_{EBO}$ | Emitter-Base Voltage         | 7       | V          |
| $I_C$     | Collector Current-Continuous | 20      | A          |
| $I_{CM}$  | Collector Current-Peak       | 30      | A          |
| $I_B$     | Base Current-Continuous      | 5       | A          |
| $P_C$     | Collector Power Dissipation  | 150     | W          |
| $T_J$     | Junction Temperature         | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature Range    | -65~150 | $^\circ C$ |



**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

| SYMBOL                 | PARAMETER                            | CONDITIONS   | MIN | TYP. | MAX | UNIT |
|------------------------|--------------------------------------|--|-----|------|-----|------|
| V <sub>CE(sat)-1</sub> | Collector-Emitter Saturation Voltage | I <sub>c</sub> = 10A; I <sub>B</sub> = 1A                                |     |      | 1.5 | V    |
| V <sub>CE(sat)-2</sub> | Collector-Emitter Saturation Voltage | I <sub>c</sub> = 20A; I <sub>B</sub> = 2A                                |     |      | 2.5 | V    |
| V <sub>BE(sat)</sub>   | Base-Emitter Saturation Voltage      | I <sub>c</sub> =10A; I <sub>B</sub> = 1A                                 |     |      | 2.0 | V    |
| V <sub>(BR)CEO</sub>   | Collector-Emitter Breakdown Voltage  | I <sub>c</sub> = 30mA; I <sub>B</sub> = 0                                | 60  |      |     | V    |
| V <sub>(BR)EBO</sub>   | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 1mA; I <sub>C</sub> = 0                                 | 7   |      |     | V    |
| h <sub>FE-1</sub>      | DC Current Gain                      | I <sub>C</sub> =1A; V <sub>CE</sub> = 5V                                 | 60  |      |     |      |
| h <sub>FE-2</sub>      | DC Current Gain                      | I <sub>C</sub> =20A; V <sub>CE</sub> = 5V                                | 20  |      | 200 |      |
| I <sub>CBO</sub>       | Collector Cutoff Current             | V <sub>CB</sub> =80V ; I <sub>E</sub> = 0                                |     |      | 100 | uA   |
| I <sub>EBO</sub>       | Emitter Cutoff Current               | V <sub>EB</sub> =6V; I <sub>C</sub> = 0                                  |     |      | 100 | uA   |
| f <sub>T</sub>         | Current-Gain—Bandwidth Product       | I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V; f <sub>test</sub> = 1.0MHZ | 3   |      |     | MHz  |

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