

isc Silicon NPN Power Transistor

3DD13009NL

DESCRIPTION

- High breakdown voltage
- High switching speed
- High current capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

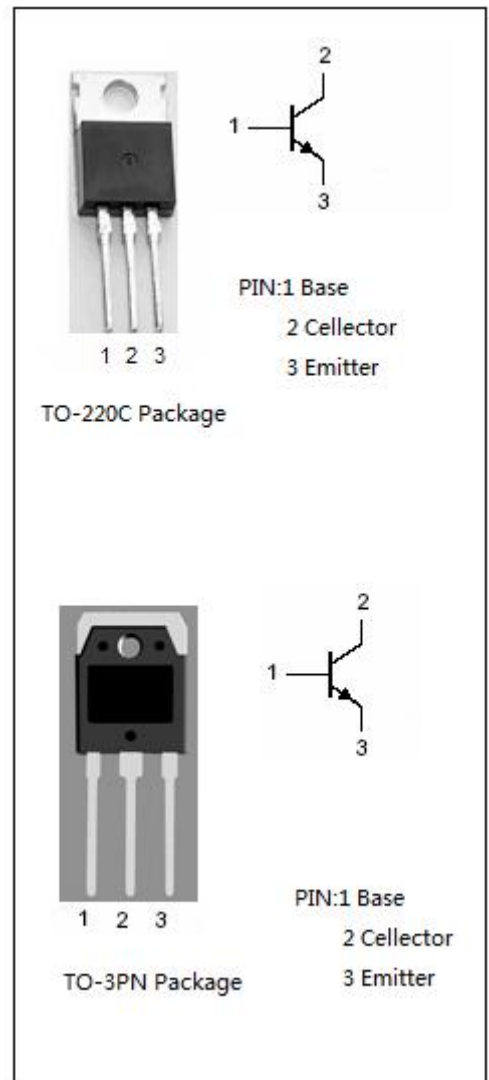
- Energy-saving light
- High frequency switching power supply
- High frequency power transform

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT | |
|------------------|---|---------|------|---|
| V _{CEV} | Collector-Emitter Voltage | 600 | V | |
| V _{CEO} | Collector-Emitter Voltage | 350 | V | |
| V _{EBO} | Emitter-Base Voltage | 9 | V | |
| I _C | Collector Current-Continuous | 15 | A | |
| I _{CM} | Collector Current-peak | 30 | A | |
| I _B | Base Current | 7 | A | |
| I _{BM} | Base Current-Peak | 14 | A | |
| P _C | Collector Power Dissipation T _C =25°C | TO-220 | 110 | W |
| | | TO-3PN | 130 | |
| T _i | Junction Temperature | 150 | °C | |
| T _{stg} | Storage Temperature Range | -55~150 | °C | |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT | |
|---------------------|---|--------|------|------|
| R _{th j-c} | Thermal Resistance, Junction to Case | TO-220 | 1.14 | °C/W |
| | | TO-3PN | 0.96 | |



isc Silicon NPN Power Transistor**3DD13009NL****ELECTRICAL CHARACTERISTICS** $T_c = 25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|---------------------------------------|-----|------|------|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = 10\text{mA}; I_B = 0$ | 350 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 8\text{A}; I_B = 1.6\text{A}$ | | | 1.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = 8\text{A}; I_B = 1.6\text{A}$ | | | 1.6 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = 600\text{V}; I_E = 0$ | | | 0.1 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = 9\text{V}; I_C = 0$ | | | 0.01 | mA |
| h_{FE-1} | DC Current Gain | $I_C = 5\text{A}; V_{CE} = 5\text{V}$ | 8 | | 40 | |
| h_{FE-2} | DC Current Gain | $I_C = 8\text{A}; V_{CE} = 5\text{V}$ | 8 | | | |

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Outline Drawing

