

isc N-Channel MOSFET Transistor

NVD3055L170

• FEATURES

- With TO-251(IPAK) packaging
- High speed switching
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

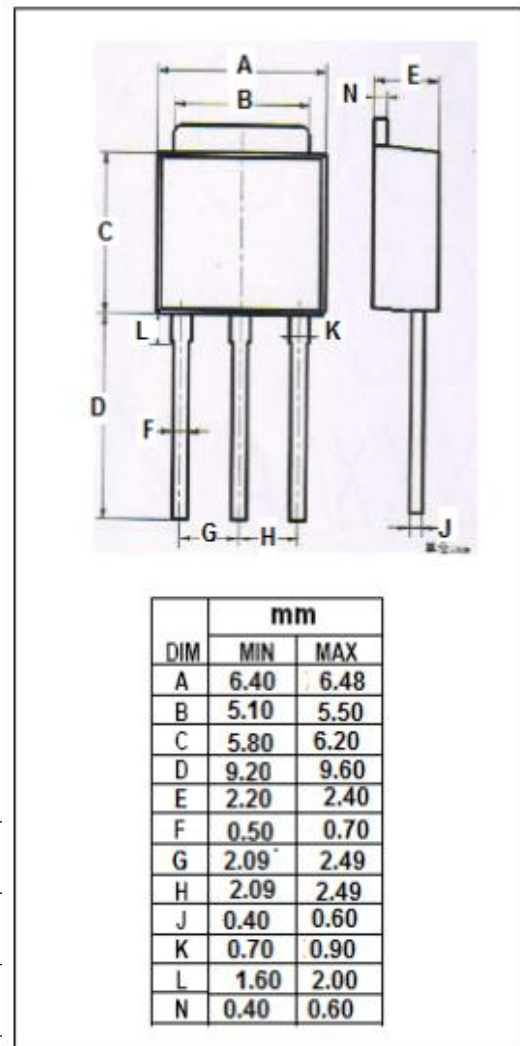
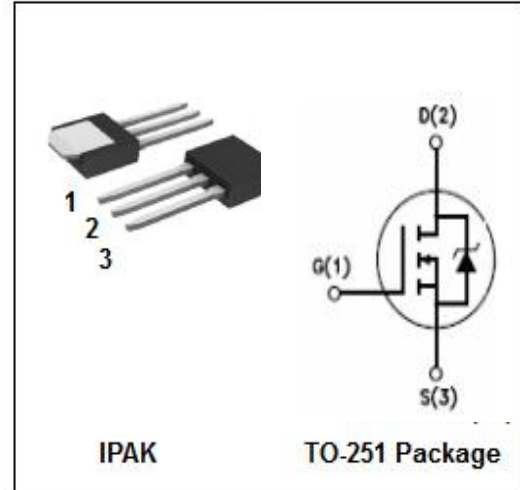
- Power supply
- DC-DC converters
- Motor control
- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|--------------------------------|---------|------|
| V _{DSS} | Drain-Source Voltage | 60 | V |
| V _{GSS} | Gate-Source Voltage | ±20 | V |
| I _D | Drain Current-Continuous | 9 | A |
| I _{DM} | Drain Current-Single Pulsed | 27 | A |
| P _D | Total Dissipation | 28.5 | W |
| T _j | Operating Junction Temperature | -55~175 | °C |
| T _{stg} | Storage Temperature | -55~175 | °C |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|-----------|---------------------------------------|------|------|
| Rth(ch-c) | Channel-to-case thermal resistance | 5.2 | °C/W |
| Rth(ch-a) | Channel-to-ambient thermal resistance | 71.4 | °C/W |



isc N-Channel MOSFET Transistor**NVD3055L170****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------|--------------------------------|---|-----|------|-----------|-----------|
| BV_{DSS} | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=0.25mA$ | 60 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}; I_D=0.1mA$ | 1.0 | | 2.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=5V; I_D=4.5A$ | | 153 | 170 | $m\Omega$ |
| I_{GSS} | Gate-Source Leakage Current | $V_{GS}=\pm 20V; V_{DS}=0V$ | | | ± 0.1 | μA |
| I_{DSS} | Drain-Source Leakage Current | $V_{DS}=60V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=60V; V_{GS}=0V; T_j=150^{\circ}\text{C}$ | | | 1 10 | μA |
| V_{SDF} | Diode forward voltage | $I_{SD}=9A, V_{GS}=0V$ | | 0.98 | 1.25 | V |

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