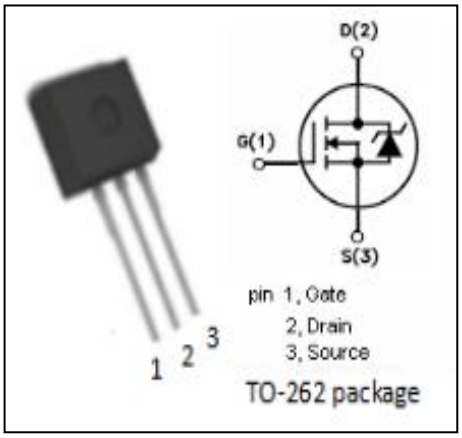
# Isc N-Channel MOSFET Transistor IRL520NL

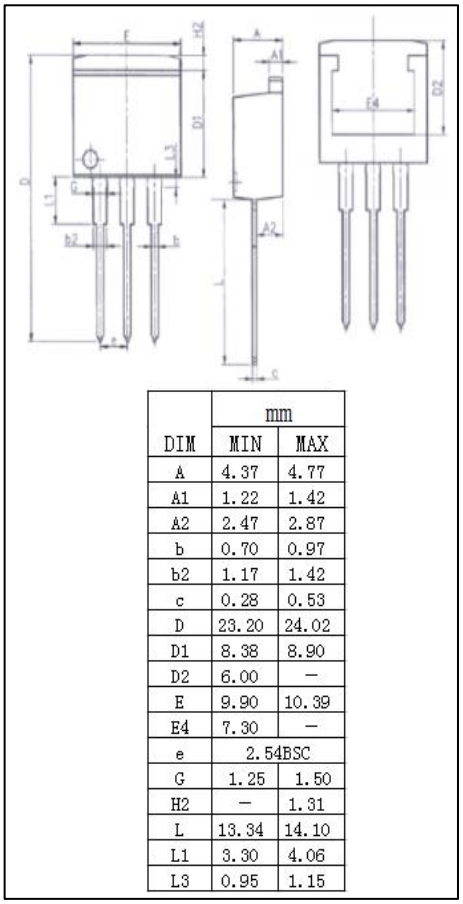
- **FEATURES**
- With To-262 package
- Low input capacitance and gate charge
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




- **APPLICATIONS**
- Switching applications

- **ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)**

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 100 | V |
| $V_{GSS}$ | Gate-Source Voltage | ±16 | V |
| $I_D$ | Drain Current-Continuous Tc=25℃<br>Tc=100℃ | 10<br>7.1 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 35 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 48 | W |
| $T_{ch}$ | Max. Operating Junction Temperature | 175 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~175 | ℃ |



| DIM | mm MIN | MAX |
|---|---|---|
| A | 4.37 | 4.77 |
| A1 | 1.22 | 1.42 |
| A2 | 2.47 | 2.87 |
| b | 0.70 | 0.97 |
| b2 | 1.17 | 1.42 |
| c | 0.28 | 0.53 |
| D | 23.20 | 24.02 |
| D1 | 8.38 | 8.90 |
| D2 | 6.00 | — |
| E | 9.90 | 10.39 |
| E4 | 7.30 | — |
| e | 2.54BSC | |
| G | 1.25 | 1.50 |
| H2 | — | 1.31 |
| L | 13.34 | 14.10 |
| L1 | 3.30 | 4.06 |
| L3 | 0.95 | 1.15 |

- **THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| Rth(ch-c) | Channel-to-case thermal resistance | 3.1 | ℃/W |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| $BV_{DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$=0V; $I_D$= 0.25mA | 100 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$=$V_{GS}$; $I_D$=0.25mA | 1.0 | | 2.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$= 10V; $I_D$=6A | | | 180 | mΩ |
| $I_{GSS}$ | Gate-Source Leakage Current | $V_{GS}$= ±16V;$V_{DS}$= 0V | | | ±0.1 | μA |
| $I_{DSS}$ | Drain-Source Leakage Current | $V_{DS}$=100V; $V_{GS}$= 0V;Tj=25℃<br>$V_{DS}$=80V; $V_{GS}$= 0V;Tj=125℃ | | | 25<br>250 | μA |
| $V_{SDF}$ | Diode forward voltage | $I_{SD}$=6.0A, $V_{GS}$ = 0 V | | | 1.3 | V |