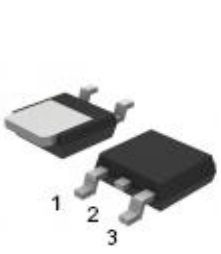
# iscN-Channel MOSFET Transistor IRLR120

- **FEATURES**
- Low drain-source on-resistance:
  $R_{DS(ON)}$ ≤0.27Ω @$V_{GS}$=5V
- Enhancement mode:
  Vth = 1.0 to 2.0V ($V_{DS}$ = 10 V, $I_D$=0.25mA)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




DPAK

pin 1.Gate
2.Drain
3.Source

TO-252 package

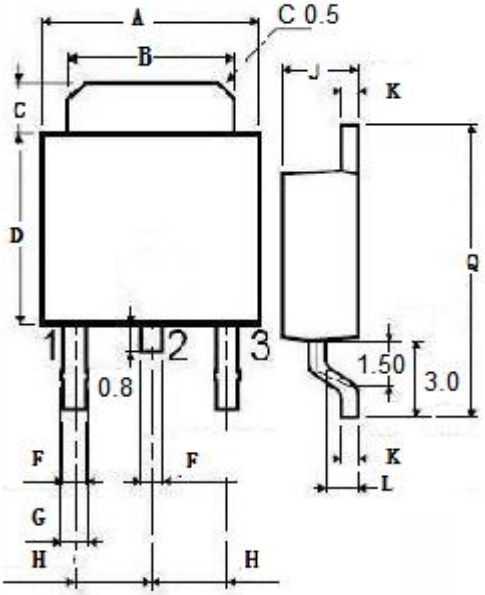
- **DESCRITION**
- Switching Voltage Regulators

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 100 | V |
| $V_{GS}$ | Gate-Source Voltage | ±10 | V |
| $I_D$ | Drain Current-Continuous | 7.7 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 31 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 42 | W |
| $T_j$ | Max. Operating Junction Temperature | -55~150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

- **THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| Rth(ch-c) | Channel-to-case thermal resistance | 3.0 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 6.40 | 6.60 |
| B | 5.20 | 5.40 |
| C | 1.15 | 1.35 |
| D | 5.70 | 6.10 |
| F | 0.65 | |
| G | 0.75 | |
| H | 2.10 | 2.50 |
| J | 2.10 | 2.40 |
| K | 0.40 | 0.60 |
| L | 0.90 | 1.10 |
| Q | 9.90 | 10.1 |

# iscN-Channel MOSFET Transistor IRLR120

## 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 | $V_{DS}$= 10V; $I_D$=0.25mA | 1.0 | | 2.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$=5V; $I_D$=4.6A<br>$V_{GS}$=4V; $I_D$=3.9A | | | 0.27<br>0.38 | Ω |
| $I_{GSS}$ | Gate-Source Leakage Current | $V_{GS}$= ±10V;$V_{DS}$= 0V | | | ±100 | nA |
| $I_{DSS}$ | Drain-Source Leakage Current | $V_{DS}$=100V; $V_{GS}$= 0V<br>$V_{DS}$=80V; $V_{GS}$= 0V;$T_J$=125℃ | | | 25<br>250 | uA |
| $V_{SDF}$ | Diode forward voltage | $I_{DR}$ =7.7A, $V_{GS}$ = 0 V | | | 2.5 | V |