

iscN-Channel MOSFET Transistor
IRFU310
• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} \leq 3.6\Omega @V_{GS}=10V$
- Enhancement mode:
 $V_{th} = 2.0 \text{ to } 4.0V (V_{DS} = 10 V, I_D=0.25mA)$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

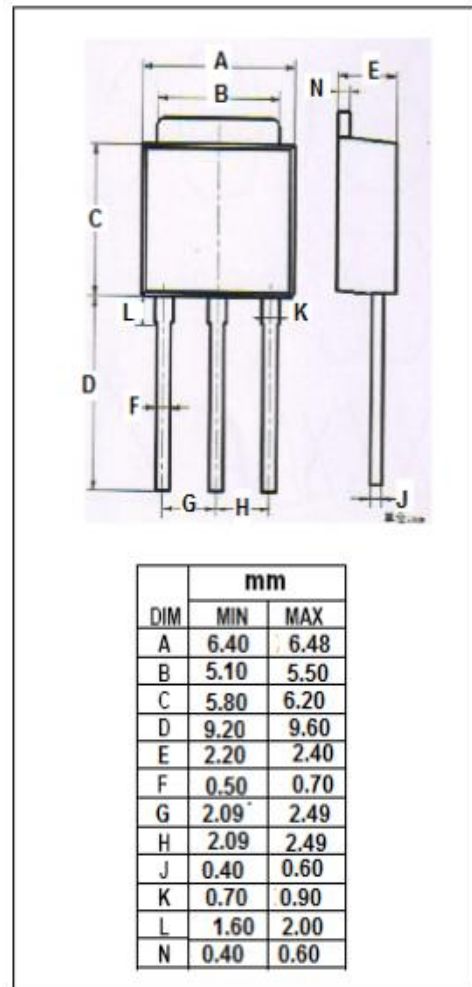
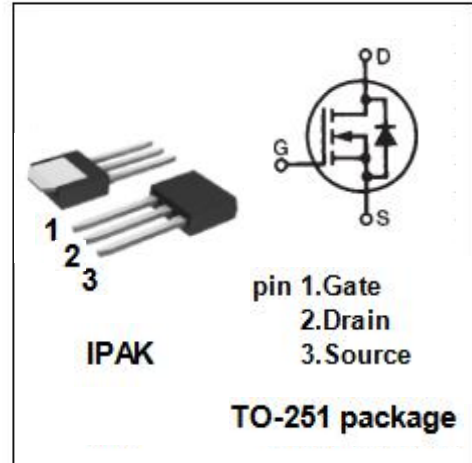
- Switching Voltage Regulators

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---|---------|------|
| V _{DSS} | Drain-Source Voltage | 400 | V |
| V _{GS} | Gate-Source Voltage | ±20 | V |
| I _D | Drain Current-Continuous | 1.7 | A |
| I _{DM} | Drain Current-Single Pulsed | 6.0 | A |
| P _D | Total Dissipation @T _c =25°C | 25 | W |
| T _j | Max. Operating Junction Temperature | -55~150 | °C |
| T _{stg} | Storage Temperature | -55~150 | °C |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|-----------------------|------------------------------------|-----|------|
| R _{th(ch-c)} | Channel-to-case thermal resistance | 5.0 | °C/W |



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------|--------------------------------|---|-----|-----|-----------|------|
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V; I _D = 0.25mA | 400 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = 10V; I _D =0.25mA | 2.0 | | 4.0 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} =10V; I _D =1.0A | | | 3.6 | Ω |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±20V; V _{DS} = 0V | | | ± 100 | nA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} =400V; V _{GS} = 0V V _{DS} =320V; V _{GS} = 0V; T _J =125°C | | | 25 250 | uA |
| V _{SDF} | Diode forward voltage | I _{DR} =1.7A, V _{GS} = 0 V | | | 1.6 | V |

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