

Isc N-Channel MOSFET Transistor

IPA50R250CP

• FEATURES

- With TO-220F package
- Low input capacitance and gate charge
- Low gate input resistance
- Reduced switching and conduction losses
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

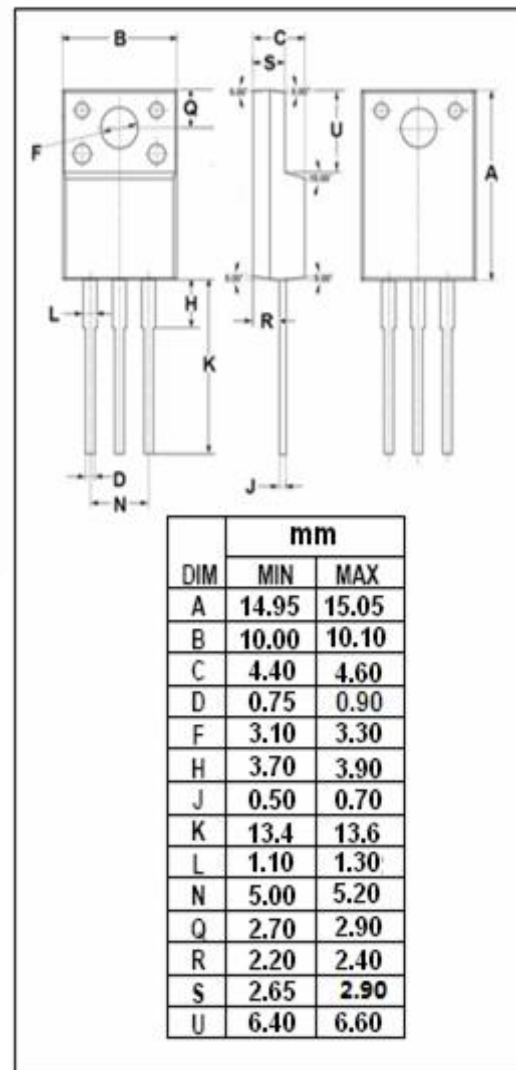
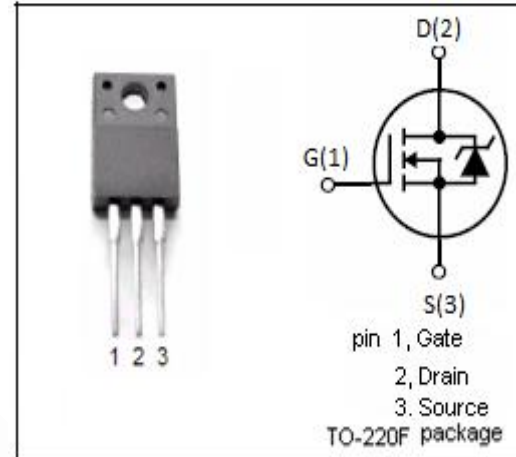
- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|--|---------|------|
| V _{DSS} | Drain-Source Voltage | 500 | V |
| V _{GSS} | Gate-Source Voltage | ±30 | V |
| I _D | Drain Current-Continuous @T _c =25°C (V _{GS} at 10V) T _c =100°C | 13 9 | A |
| I _{DM} | Drain Current-Single Pulsed | 31 | A |
| P _D | Total Dissipation @T _c =25°C | 33 | W |
| T _j | Max. Operating Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -40~150 | °C |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|-----------------------|---------------------------------------|------|------|
| R _{th(ch-c)} | Channel-to-case thermal resistance | 3.75 | °C/W |
| R _{th(ch-a)} | Channel-to-ambient thermal resistance | 62 | °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 | 500 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D =0.52mA | 2.5 | | 3.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =7.8A | | 220 | 250 | mΩ |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±20V; V _{DS} = 0V | | | ±0.1 | μA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} = 500V; V _{GS} = 0V; T _J =25°C V _{DS} = 500V; V _{GS} = 0V; T _J =125°C | | | 1 100 | μA |
| V _{SDF} | Diode forward voltage | I _{SD} =7.8A, V _{GS} = 0 V | | | 1.2 | V |