

isc N-Channel MOSFET Transistor

IIPA65R150CFD

DESCRIPT

- Low Drain-Source On-Resistance
: $R_{DS(on)} < 0.15 \Omega$ (Max)
- Drain Current $I_D = 22A @ T_C = 25^\circ C$
- New technology for high voltage device
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

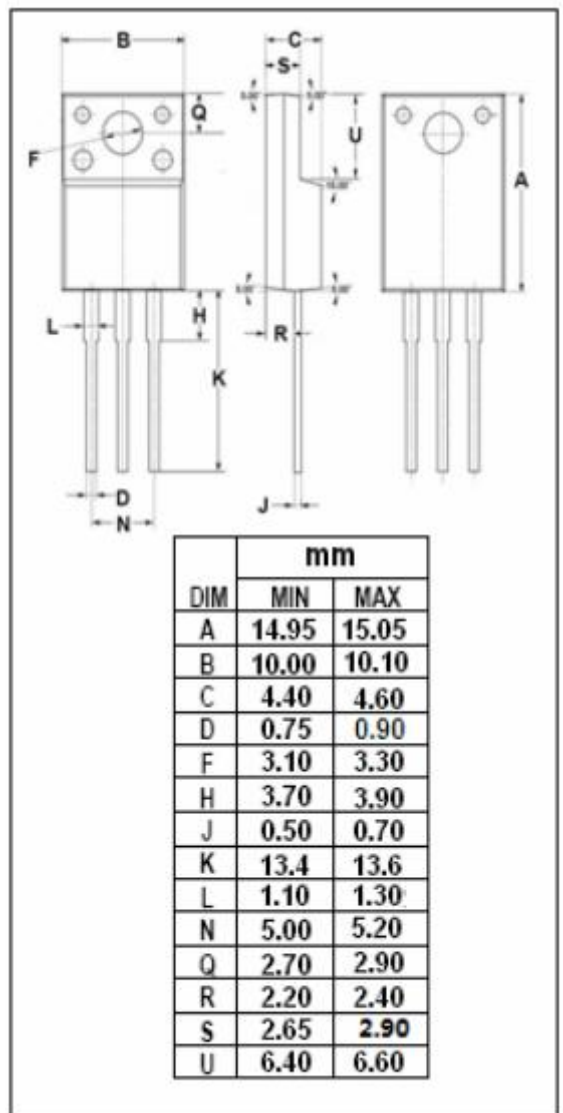
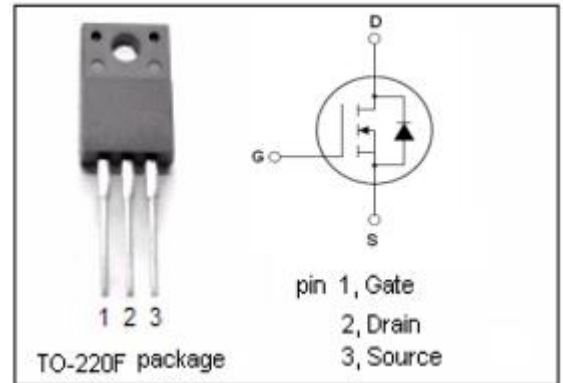
- Power factor correction
- Switched mode power supplies
- Uninterruptible power supply

ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage ($V_{GS} = 0$) | 650 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-continuous@ $T_C = 25^\circ C$ | 22 | A |
| I_{DM} | Pulsed drain current | 72 | A |
| P_{tot} | Total Dissipation@ $T_C = 25^\circ C$ | 34.7 | W |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------|--------------------------------------|-----|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 3.6 | $^\circ C/W$ |



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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------|----------------------------------|--|-----|-----|------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} = 0; I _D = 1mA | 650 | | | V |
| V _{GS(TH)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D = 0.9mA | 3.5 | | 4.5 | V |
| R _{DS(ON)*} | Drain-Source On-stage Resistance | V _{GS} = 10V; I _D = 9.3A | | | 0.15 | Ω |
| I _{GSS} | Gate Source Leakage Current | V _{GS} = ±20V; V _{DS} = 0 | | | ±100 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} = 650V; V _{GS} = 0 | | | 1 | uA |
| V _{SD*} | Diode Forward Voltage | I _F = 14.0A; V _{GS} = 0 | | | 0.9 | V |

DYNAMIC PARAMETERS

| | | | | | | |
|------------------|------------------------------|---|--|------|--|----|
| C _{ISS} | Input Capacitance | V _{GS} =0V, V _{DS} =50V, f=1.0MHZ | | 2600 | | pF |
| C _{OSS} | Output Capacitance | | | 95 | | pF |
| C _{RSS} | Reverse Transfer Capacitance | | | 7 | | pF |

SWITCHING PARAMETERS

| | | | | | | |
|---------------------|-----------------------|--|--|-----|--|----|
| Q _G | Total Gate Charge | V _{GS} =480V, V _{DS} =10V, I _D =21A | | 48 | | nC |
| Q _{GS} | Gate to Source Charge | | | 17 | | nC |
| Q _{GD} | Gate to Drain Charge | | | 14 | | nC |
| t _{D(ON)} | Turn-ON Delay Time | V _{DD} =380V, I _D =11A, V _{GS} =10V, R _G =4Ω | | 11 | | nS |
| t _R | Rise Time | | | 6 | | nS |
| t _{D(Off)} | Turn-OFF Delay Time | | | 61 | | nS |
| t _F | Turn-OFF Fall-Time | | | 4.5 | | nS |

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