

isc N-Channel MOSFET Transistor

IRF630A

DESCRIPTION

- Drain Current  $-I_D=9A @ T_C=25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS}= 200V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.4 \Omega (\text{Max})$
- Fast Switching Speed
- Low Drive Requirement

APPLICATIONS

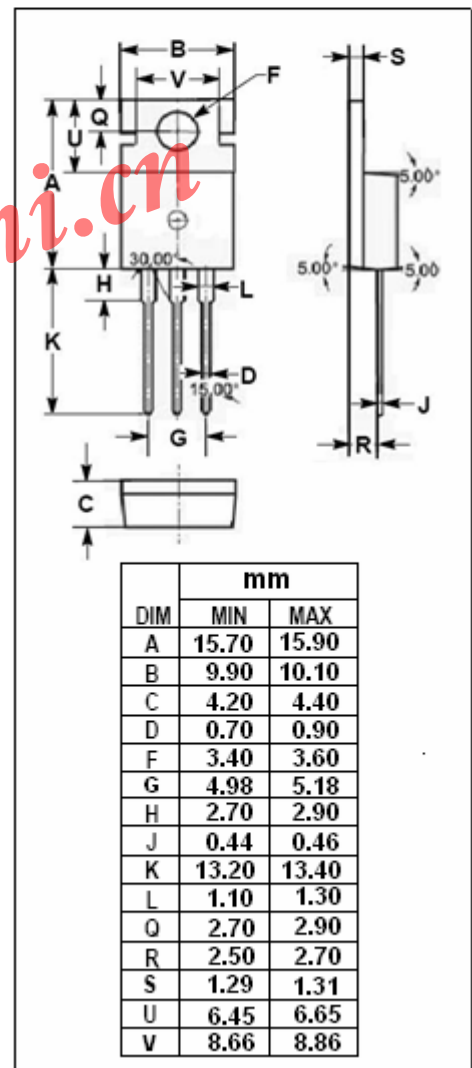
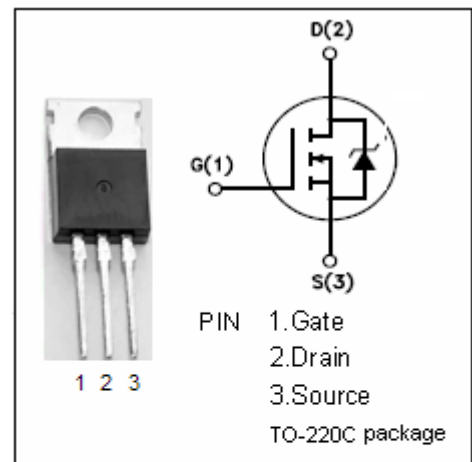
- This device is n-channel, enhancement mode, power MOSFET designed especially for high power, high speed applications, such as switching power supplies, UPS, AC and DC motor controls, relay and solenoid drivers and high energy pulse circuits.

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

| SYMBOL    | PARAMETER                                  | VALUE    | UNIT       |
|-----------|--|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage ( $V_{GS}=0$ )        | 200      | V          |
| $V_{GS}$  | Gate-Source Voltage                        | $\pm 30$ | V          |
| $I_D$     | Drain Current-continuous@ $T_C=25^\circ C$ | 9        | A          |
| $P_{tot}$ | Total Dissipation@ $T_C=25^\circ C$        | 72       | 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    | 1.74 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 62.5 | $^\circ C/W$ |



## isc N-Channel Mosfet Transistor

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• ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )

| SYMBOL        | PARAMETER                        | CONDITIONS                           | MIN | MAX       | UNIT          |
|---------------|----------------------------------|--------------------------------------|-----|-----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage   | $V_{GS}=0; I_D=0.25\text{mA}$        | 200 |           | V             |
| $V_{GS(TH)}$  | Gate Threshold Voltage           | $V_{DS}=V_{GS}; I_D=0.25\text{mA}$   | 2   | 4         | V             |
| $R_{DS(ON)}$  | Drain-Source On-stage Resistance | $V_{GS}=10\text{V}; I_D=4.5\text{A}$ |     | 0.4       | $\Omega$      |
| $I_{GSS}$     | Gate Source Leakage Current      | $V_{GS}=\pm 30\text{V}; V_{DS}=0$    |     | $\pm 100$ | nA            |
| $I_{DSS}$     | Zero Gate Voltage Drain Current  | $V_{DS}=200\text{V}; V_{GS}=0$       |     | 10        | $\mu\text{A}$ |
| $V_{SD}$      | Diode Forward Voltage            | $I_F=9\text{A}; V_{GS}=0$            |     | 1.5       | V             |

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