

isc N-Channel MOSFET Transistor

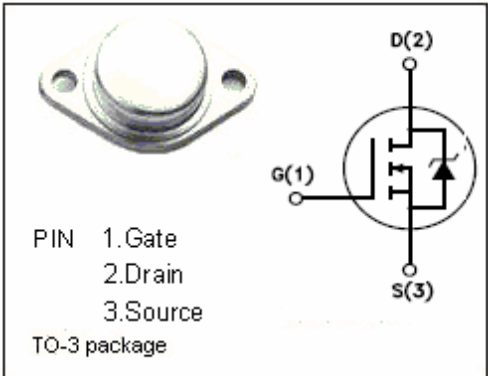
IRF462

DESCRIPTION

- Repetitive Avalanche Ratings
- Dynamic dv/dt Rating
- Hermetically Sealed
- Simple Drive Requirements
- Ease of Paralleling

APPLICATIONS

- Designed for applications such as switching power Supplies ,motor controls ,inverters ,choppers ,audio amplifiers and high energy pulse circuits.

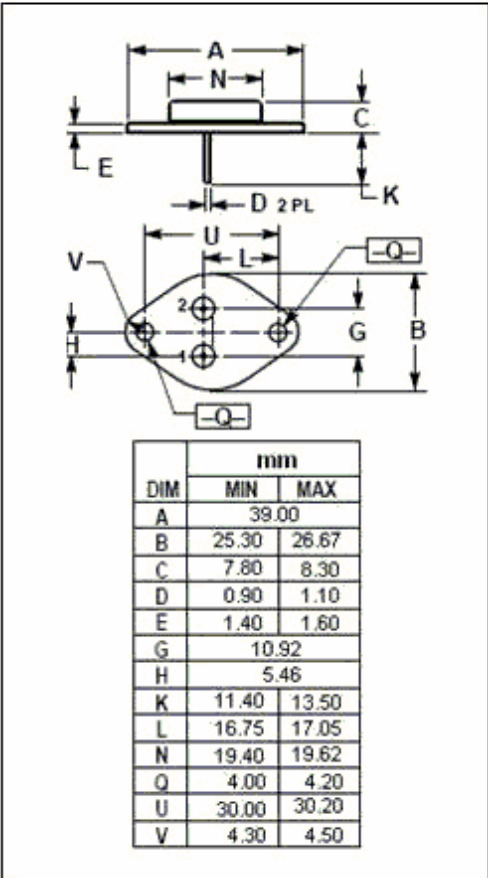


ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL    | ARAMETER                                          | VALUE    | UNIT               |
|-----------|---------------------------------------------------|----------|--------------------|
| $V_{DSS}$ | Drain-Source Voltage ( $V_{GS}=0$ )               | 500      | V                  |
| $V_{GS}$  | Gate-Source Voltage                               | $\pm 20$ | V                  |
| $I_D$     | Drain Current-continuous@ $TC=25^{\circ}\text{C}$ | 19       | A                  |
| $P_{tot}$ | Total Dissipation@ $TC=25^{\circ}\text{C}$        | 300      | W                  |
| $T_j$     | Max. Operating Junction Temperature               | -55~150  | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                         | -55~150  | $^{\circ}\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                              | MAX  | UNIT                 |
|---------------|----------------------------------------|------|----------------------|
| $R_{th\ j-c}$ | Thermal Resistance,Junction to Case    | 0.42 | $^{\circ}\text{C/W}$ |
| $R_{th\ j-A}$ | Thermal Resistance,Junction to Ambient | 30   | $^{\circ}\text{C/W}$ |



## isc N-Channel Mosfet Transistor

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

| SYMBOL        | PARAMETER                        | CONDITIONS                                                        | MIN | TYP  | MAX       | UNIT          |
|---------------|----------------------------------|-------------------------------------------------------------------|-----|------|-----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage   | $V_{GS}=0$ ; $I_D=0.25\text{mA}$                                  | 500 |      |           | 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 | $V_{GS}=10\text{V}$ ; $I_D=12\text{A}$                            |     |      | 0.35      | $\Omega$      |
| $I_{GSS}$     | Gate Source Leakage Current      | $V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$                              |     |      | $\pm 100$ | nA            |
| $I_{DSS}$     | Zero Gate Voltage Drain Current  | $V_{DS}=500\text{V}$ ; $V_{GS}=0$                                 |     |      | 250       | $\mu\text{A}$ |
| $V_{SD}$      | Diode Forward Voltage            | $I_F=21\text{A}$ ; $V_{GS}=0$                                     |     |      | 1.8       | V             |
| $C_{iss}$     | Input Capacitance                | $V_{DS}=250\text{V}$ , $V_{GS}=10\text{V}$ ,<br>$F=1.0\text{MHz}$ |     | 4100 |           | pF            |
| $C_{oss}$     | Output Capacitance               |                                                                   |     | 480  |           | pF            |
| $C_{rss}$     | Reverse Transfer Capacitance     |                                                                   |     | 84   |           | pF            |

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

| SYMBOL            | PARAMETER           | CONDITIONS                                                 | MIN | TYP | MAX | UNIT |
|-------------------|---------------------|------------------------------------------------------------|-----|-----|-----|------|
| $T_d(\text{on})$  | Turn-on Delay Time  | $V_{DD}=250\text{V}$ , $I_D=21\text{A}$<br>$R_G=4.3\Omega$ |     | 23  | 35  | ns   |
| $T_r$             | Rise Time           |                                                            |     | 81  | 120 | ns   |
| $T_d(\text{off})$ | Turn-off Delay Time |                                                            |     | 85  | 130 | ns   |
| $T_f$             | Fall Time           |                                                            |     | 65  | 98  | ns   |