

isc N-Channel Mosfet Transistor

IRF532

• FEATURES

- Low $R_{DS(on)}$
- V_{GS} Rated at $\pm 20V$
- Silicon Gate for Fast Switching Speed
- Rugged
- Low Drive Requirements

• DESCRIPTION

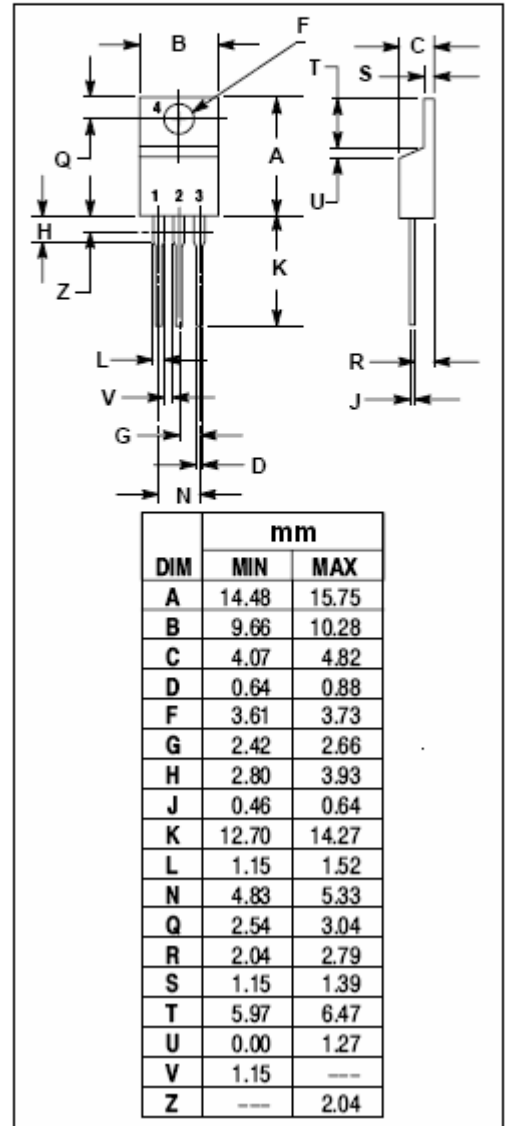
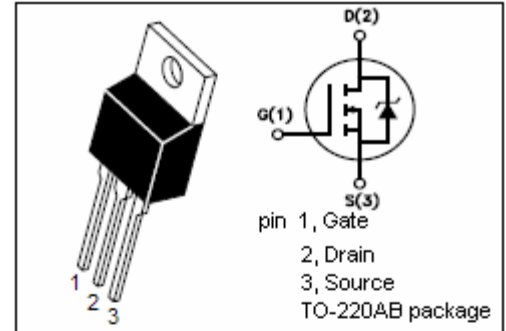
- Designed especially for high voltage,high speed applications, such as off-line switching power supplies , UPS,AC and DC motor controls,relay and solenoid drivers.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---------------------------------------|----------|-------------|
| V_{DSS} | Drain-Source Voltage | 100 | V |
| V_{GS} | Gate-Source Voltage-Continuous | ± 20 | V |
| I_D | Drain Current-Continuous | 12 | A |
| I_{DM} | Drain Current-Single Plused | 48 | A |
| P_D | Total Dissipation @ $T_C=25^{\circ}C$ | 79 | W |
| T_j | Max. Operating Junction Temperature | -55~175 | $^{\circ}C$ |
| T_{stg} | Storage Temperature | -55~175 | $^{\circ}C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------|--|-----|---------------|
| $R_{th j-c}$ | Thermal Resistance,Junction to Case | 1.9 | $^{\circ}C/W$ |
| $R_{th j-a}$ | Thermal Resistance,Junction to Ambient | 80 | $^{\circ}C/W$ |



isc N-Channel Mosfet Transistor**IRF532****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------|---------------------------------|---|-----|-----|-----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0; I_D=0.25\text{mA}$ | 100 | | | 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-Resistance | $V_{GS}=10\text{V}; I_D=8.3\text{A}$ | | | 0.25 | Ω |
| I_{GSS} | Gate-Body Leakage Current | $V_{GS}= \pm 20\text{V}; V_{DS}=0$ | | | ± 500 | nA |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=100\text{V}; V_{GS}=0$ | | | 250 | μA |
| V_{SD} | Forward On-Voltage | $I_S=14\text{A}; V_{GS}=0$ | | | 2.5 | V |
| C_{iss} | Input Capacitance | $V_{DS}=25\text{V}, V_{GS}=0\text{V},$ $F=1.0\text{MHz}$ | | 600 | | pF |
| C_{oss} | Output Capacitance | | | 250 | | pF |
| C_{rss} | Reverse Transfer Capacitance | | | 50 | | pF |

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT | |
|------------|---------------------|---|-----|-----|-----|------|----|
| $T_d(on)$ | Turn-on Delay Time | $V_{DD}=50\text{V}, I_D=14\text{A}$ $V_{GS}=10\text{V}$ $R_{GS}=12\Omega$ $R_{GEN}=12\Omega$ | | 12 | 15 | ns | |
| T_r | Rise Time | | | 35 | 51 | ns | |
| $T_d(off)$ | Turn-off Delay Time | | | | 25 | 35 | ns |
| T_f | Fall Time | | | | 25 | 36 | ns |