

isc N-Channel MOSFET Transistor

IRF241

DESCRIPTION

- Drain Current $I_D=18A@ T_C=25^\circ C$
- Drain Source Voltage
: $V_{DSS}= 150V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} =0.18 \Omega (\text{Max})$

APPLICATIONS

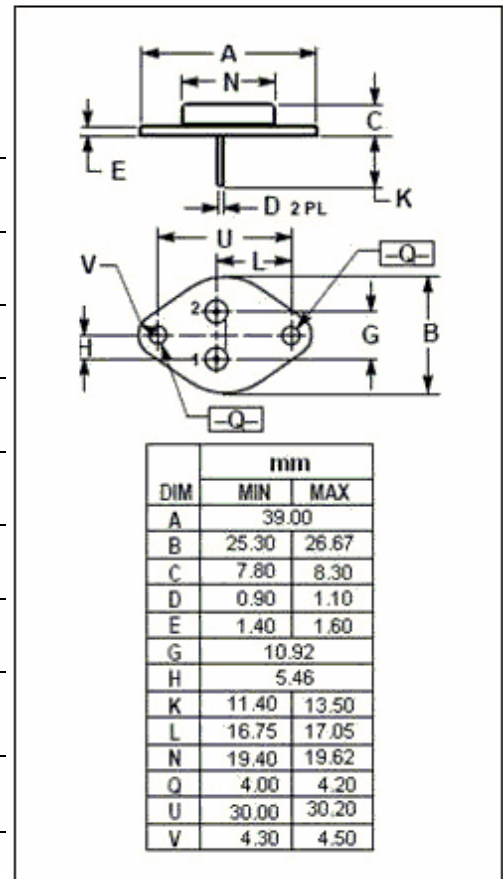
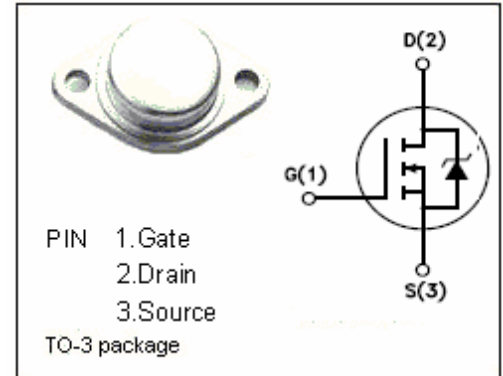
- Switching power supplies
- Switching converters,motor driver,relay driver
- Audio amplifier and servo motors

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage ($V_{GS}=0$) | 150 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-continuous@ $T_C=25^\circ C$ | 18 | A |
| P_{tot} | Total Dissipation@ $T_C=25^\circ C$ | 125 | 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 | 1.0 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance,Junction to Ambient | 30 | $^\circ C/W$ |



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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|---------------|----------------------------------|--|-----|------|-----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0$; $I_D=250\mu\text{A}$ | 150 | | | V |
| $V_{GS(TH)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}$; $I_D=250\mu\text{A}$ | 2.0 | | 4.0 | V |
| $R_{DS(ON)}$ | Drain-Source On-stage Resistance | $V_{GS}=10\text{V}$; $I_D=10\text{A}$ | | | 0.18 | Ω |
| I_{GSS} | Gate Source Leakage Current | $V_{GS}=\pm 20\text{V}$; $V_{DS}=0$ | | | ± 100 | nA |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=150\text{V}$; $V_{GS}=0$ | | | 250 | μA |
| V_{SD} | Diode Forward Voltage | $I_S=18\text{A}$; $V_{GS}=0$ | | | 2.0 | V |
| C_{iss} | Input Capacitance | $V_{DS}=25\text{V}$; $V_{GS}=0\text{V}$; $f_T=1\text{MHz}$ | | 1400 | 1600 | pF |
| C_{rss} | Reverse Transfer Capacitance | | | 85 | 300 | |
| C_{oss} | Output Capacitance | | | 310 | 750 | |
| t_r | Rise Time | $R_{GS}=12.5\ \Omega$ $I_D=10\text{A}$; $V_{DD}=90\text{V}$; $R_L=50\ \Omega$ | | 40 | | ns |
| $t_{d(on)}$ | Turn-on Delay Time | | | 20 | | |
| t_f | Fall Time | | | 30 | | |
| $t_{d(off)}$ | Turn-off Delay Time | | | 60 | | |