

isc N-Channel MOSFET Transistor
IXFH42N65X2A
• FEATURES

- Drain Source Voltage-
: $V_{DSS} = 650V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 72m\Omega (\text{Max})$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

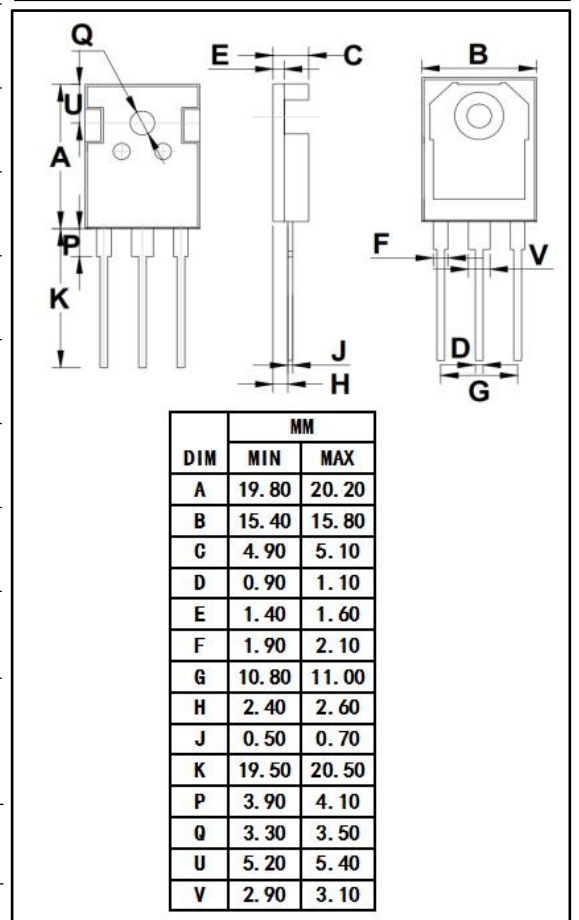
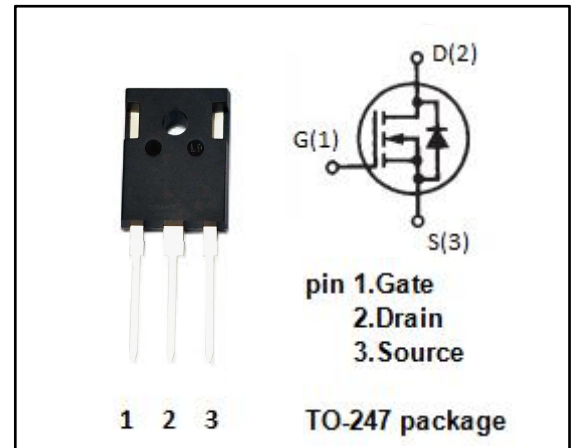
- Switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--------------------------------|----------|------------------|
| V_{DSS} | Drain-Source Voltage | 650 | V |
| V_{GSS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous | 42 | A |
| I_{DM} | Drain Current-Single Pulsed | 90 | A |
| P_D | Total Dissipation | 660 | W |
| T_j | Operating Junction Temperature | -55~150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|----------------|------------------------------------|------|--------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 0.19 | $^\circ\text{C/W}$ |



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------|--------------------------------|--|-----|-----|------------|------|
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V; I _D = 1mA | 650 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =±30V; I _D =4mA | 3.5 | | 5.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =21A | | | 72 | mΩ |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±30V; V _{DS} = 0V | | | ±100 | nA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} = 650V; V _{GS} = 0V; @T _C =25°C T _C =125°C | | | 10 1500 | μA |
| V _{SDF} | Diode forward voltage | I _{SD} =42A, V _{GS} = 0 V | | | 1.4 | V |

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