

isc N-Channel MOSFET Transistor

IXFH56N30X3

• FEATURES

- With TO-247 packaging
- With low gate drive requirements
- Easy to drive
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

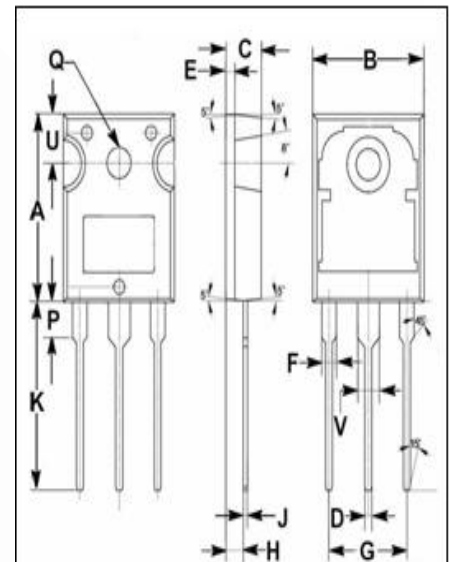
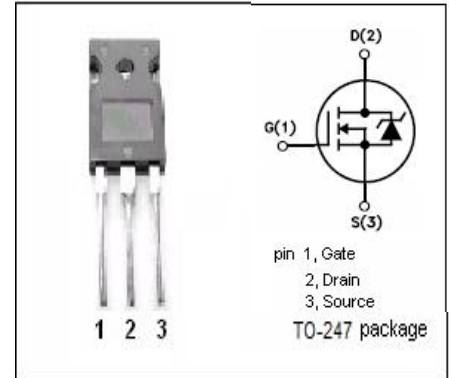
- Switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--------------------------------|----------|--------------------|
| V_{DSS} | Drain-Source Voltage | 300 | V |
| V_{GSS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous | 56 | A |
| I_{DM} | Drain Current-Single Pulsed | 112 | A |
| P_D | Total Dissipation | 320 | 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 | 0.39 | $^{\circ}\text{C}/\text{W}$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 19.80 | 20.20 |
| B | 15.40 | 15.80 |
| C | 4.90 | 5.10 |
| D | 0.90 | 1.10 |
| E | 1.40 | 1.60 |
| F | 1.90 | 2.10 |
| G | 10.80 | 11.00 |
| H | 2.40 | 2.60 |
| J | 0.50 | 0.70 |
| K | 19.50 | 20.50 |
| P | 3.90 | 4.10 |
| Q | 3.30 | 3.50 |
| U | 5.20 | 5.40 |
| V | 2.90 | 3.10 |

isc N-Channel MOSFET Transistor**IXFH56N30X3****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 = 1.0mA | 300 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =V _{GS} ; I _D =1.5mA | 2.5 | | 4.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =28A | | 21 | 27 | mΩ |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±20V; V _{DS} = 0V | | | ±0.1 | μA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} = 300V; V _{GS} = 0V; @T _C =25°C V _{DS} = 300V; V _{GS} = 0V; T _C =125°C | | | 5 500 | μA |
| V _{SDF} | Diode forward voltage | I _{SD} =56A, V _{GS} = 0 V | | | 1.4 | V |

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