

## isc N-Channel MOSFET Transistor

## IXFH72N30X3

## FEATURES

- Drain Current  $-I_D = 72A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 300V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 19m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

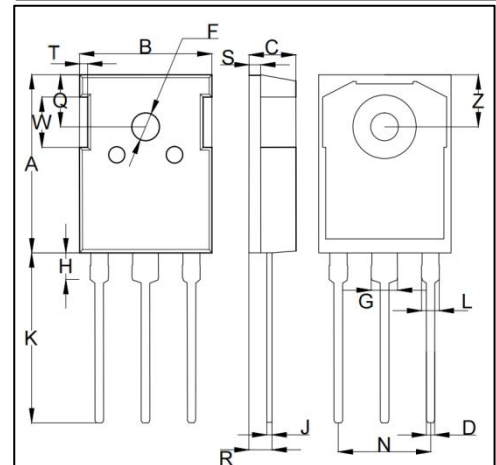
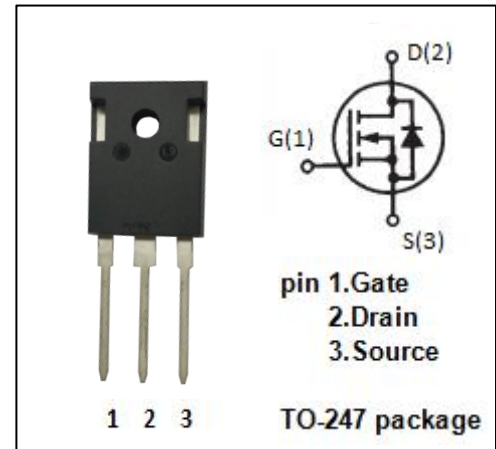
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 300      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | 72       | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | 150      | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 390      | W          |
| $T_J$     | Max. Operating Junction Temperature    | 150      | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX  | UNIT         |
|--------------|--------------------------------------|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 0.32 | $^\circ C/W$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 19.80 | 21.50 |
| B   | 15.40 | 15.90 |
| C   | 4.70  | 5.30  |
| D   | 0.90  | 1.26  |
| F   | 3.50  | 3.90  |
| G   | 2.70  | 3.30  |
| H   | 3.90  | 4.10  |
| J   | 0.500 | 0.700 |
| K   | 19.50 | 20.50 |
| L   | 1.90  | 2.20  |
| N   | 10.80 | 11.00 |
| Q   | 6.00  | 6.30  |
| R   | 2.90  | 3.30  |
| S   | 1.80  | 2.20  |
| T   | 2.15  | 2.35  |
| W   | 4.90  | 5.10  |
| Z   | 6.00  | 6.30  |

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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

| SYMBOL               | PARAMETER                       | CONDITIONS                                                 | MIN | MAX  | UNIT |
|----------------------|---------------------------------|------------------------------------------------------------|-----|------|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA               | 300 | --   | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 1.5mA | 2.5 | 4.5  | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> =36A                 | --  | 19   | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0                | --  | ±100 | nA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> =300V; V <sub>GS</sub> = 0                 | --  | 5    | uA   |
| V <sub>SD</sub>      | Forward On-Voltage              | I <sub>S</sub> =72A; V <sub>GS</sub> = 0                   | --  | 1.4  | V    |

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