

## isc N-Channel MOSFET Transistor

## IXFH50N20

## FEATURES

- Drain Current  $-I_D = 50A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 200V (Min)$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 45m\Omega (Max) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

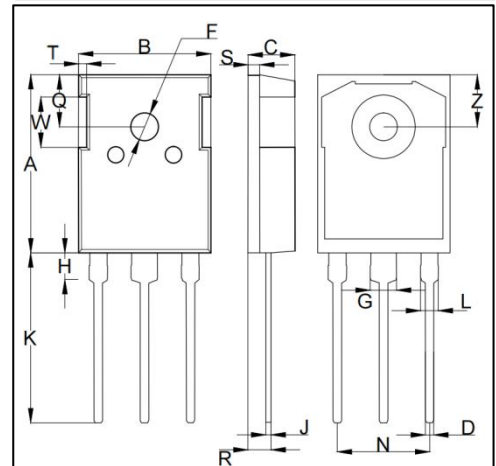
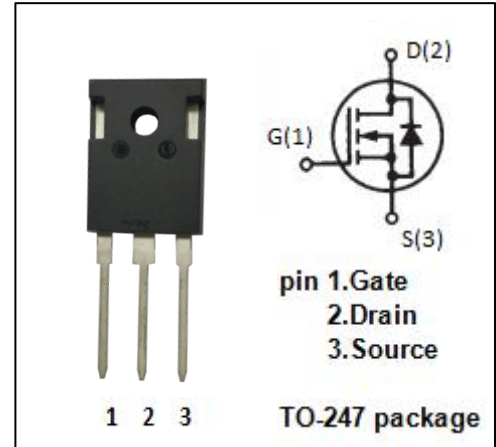
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 200      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | 50       | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | 200      | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 300      | 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 | 0.42 | $^\circ C/W$ |



| 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

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                       | CONDITIONS                             | MIN | MAX       | UNIT             |
|---------------|---------------------------------|----------------------------------------|-----|-----------|------------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage  | $V_{GS}=0$ ; $I_D=0.25\text{mA}$       | 200 | --        | V                |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}$ ; $I_D=4\text{mA}$     | 2   | 4         | V                |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}$ ; $I_D=25\text{A}$ | --  | 45        | $\text{m}\Omega$ |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$   | --  | $\pm 100$ | nA               |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=160\text{V}$ ; $V_{GS}=0$      | --  | 200       | $\mu\text{A}$    |
| $V_{SD}$      | Forward On-Voltage              | $I_S=50\text{A}$ ; $V_{GS}=0$          | --  | 1.5       | V                |

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