

**isc N-Channel MOSFET Transistor**
**IXFQ24N60X**
**• FEATURES**

- Drain Source Voltage-  
:  $V_{DSS} = 600V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} \leq 175m\ \Omega @ V_{GS} = 10V$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

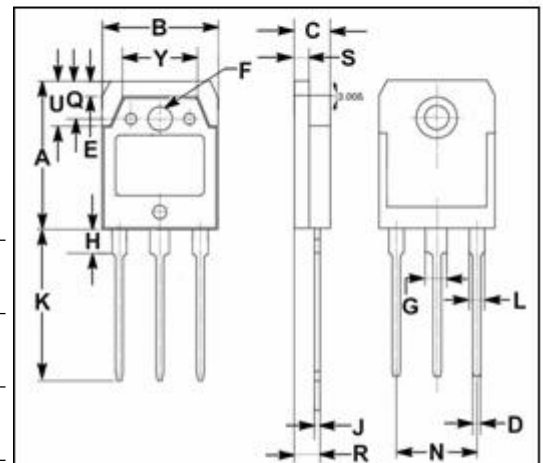
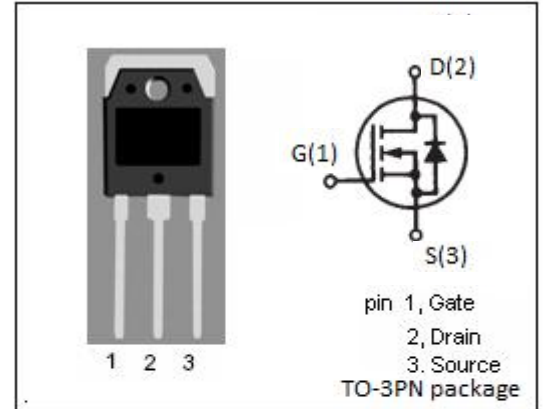
- Easy to Mount
- Space Savings
- High Power Density

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

| SYMBOL    | PARAMETER                                  | VALUE    | UNIT             |
|-----------|--|----------|------------------|
| $V_{DSS}$ | Drain-Source Voltage                       | 600      | V                |
| $V_{GS}$  | Gate-Source Voltage-Continuous             | $\pm 30$ | V                |
| $I_D$     | Drain Current-Continuous                   | 24       | A                |
| $I_{DM}$  | Drain Current-Single Plused                | 48       | A                |
| $P_D$     | Total Dissipation @ $T_c=25^\circ\text{C}$ | 400      | W                |
| $T_j$     | Max. Operating Junction Temperature        | -55~150  | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                        | -55~150  | $^\circ\text{C}$ |

**• THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX  | UNIT                      |
|---------------|--------------------------------------|------|---------------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.31 | $^\circ\text{C}/\text{W}$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 19.60 | 20.30 |
| B   | 15.50 | 15.70 |
| C   | 4.70  | 4.90  |
| D   | 0.90  | 1.10  |
| E   | 1.90  | 2.10  |
| F   | 3.40  | 3.60  |
| G   | 2.90  | 3.20  |
| H   | 3.20  | 3.40  |
| J   | 0.595 | 0.605 |
| K   | 19.80 | 20.70 |
| L   | 1.90  | 2.20  |
| N   | 10.89 | 10.91 |
| Q   | 4.90  | 5.10  |
| R   | 3.35  | 3.45  |
| S   | 1.995 | 2.100 |
| U   | 5.90  | 6.20  |
| Y   | 9.90  | 10.10 |

## isc N-Channel MOSFET Transistor

## IXFQ24N60X

## • ELECTRICAL CHARACTERISTICS

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

| SYMBOL               | PARAMETER                       | CONDITIONS  | MIN | TYPE | MAX       | UNIT |
|----------------------|---------------------------------|---|-----|------|-----------|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> = 250uA   | 600 |      |           | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 2.5mA  | 2.5 |      | 4.5       | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> = 12A   |     |      | 175       | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0   |     |      | ±100      | nA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0<br>V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0; T <sub>J</sub> =125°C |     |      | 20<br>750 | μA   |
| V <sub>SD</sub>      | Diode Forward On-voltage        | I <sub>F</sub> = 24A; V <sub>GS</sub> = 0   |     |      | 1.4       | V    |

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