

## isc N-Channel MOSFET Transistor

## IXTQ32N65X

## • FEATURES

- Drain Source Voltage-  
:  $V_{DS} = 650V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} \leq 135m\Omega @ V_{GS} = 10V$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

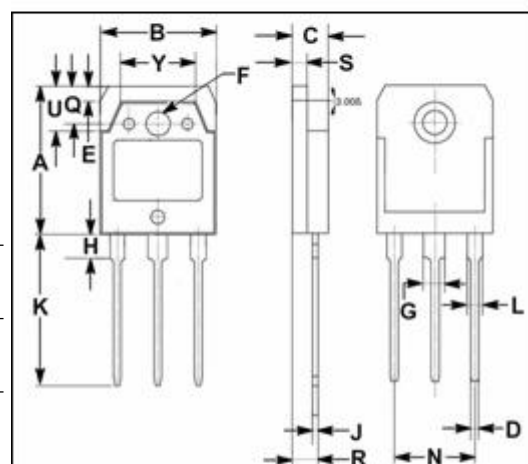
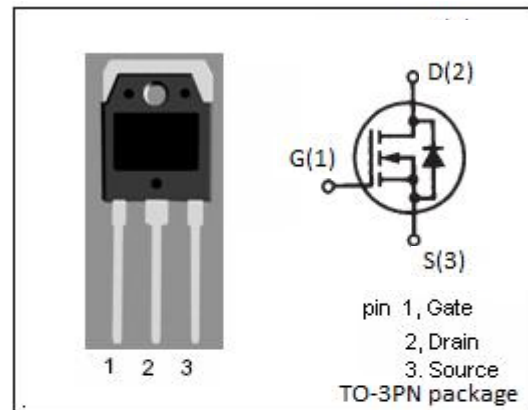
- Easy to Mount
- Space Savings
- High Power Density

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DS}$  | Drain-Source Voltage                   | 650      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 30$ | V          |
| $I_D$     | Drain Current-Continuous               | 32       | A          |
| $I_{DM}$  | Drain Current-Single Plused            | 64       | A          |
| $P_D$     | Total Dissipation @ $T_c = 25^\circ C$ | 500      | W          |
| $T_j$     | Max. Operating Junction Temperature    | -55~150  | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |

## • THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX  | UNIT         |
|--------------|--------------------------------------|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 0.25 | $^\circ C/W$ |



| 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****IXTQ32N65X****• ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                       | CONDITIONS                                                                                | MIN | TYPE | MAX       | UNIT             |
|---------------|---------------------------------|-------------------------------------------------------------------------------------------|-----|------|-----------|------------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage  | $V_{GS}=0; I_D=250\mu\text{A}$                                                            | 650 |      |           | V                |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}; I_D=250\mu\text{A}$                                                       | 3   |      | 5.5       | V                |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}; I_D=16\text{A}$                                                       |     |      | 135       | $\text{m}\Omega$ |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 30\text{V}; V_{DS}=0$                                                         |     |      | $\pm 100$ | nA               |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=650\text{V}; V_{GS}=0$<br>$V_{DS}=650\text{V}; V_{GS}=0; T_J=125^{\circ}\text{C}$ |     |      | 5<br>50   | $\mu\text{A}$    |
| $V_{SD}$      | Diode Forward On-voltage        | $I_F=32\text{A}; V_{GS}=0$                                                                |     |      | 1.4       | V                |

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