

## isc N-Channel MOSFET Transistor

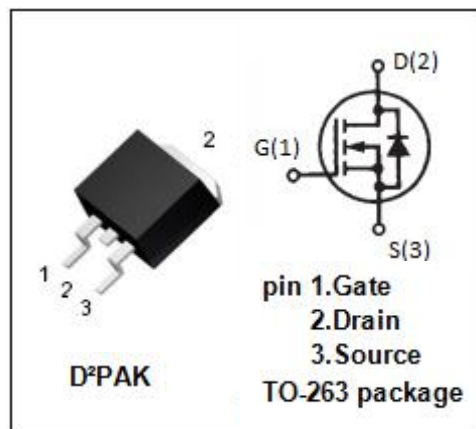
## IXFA12N65X2

## • FEATURES

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

## • APPLICATIONS

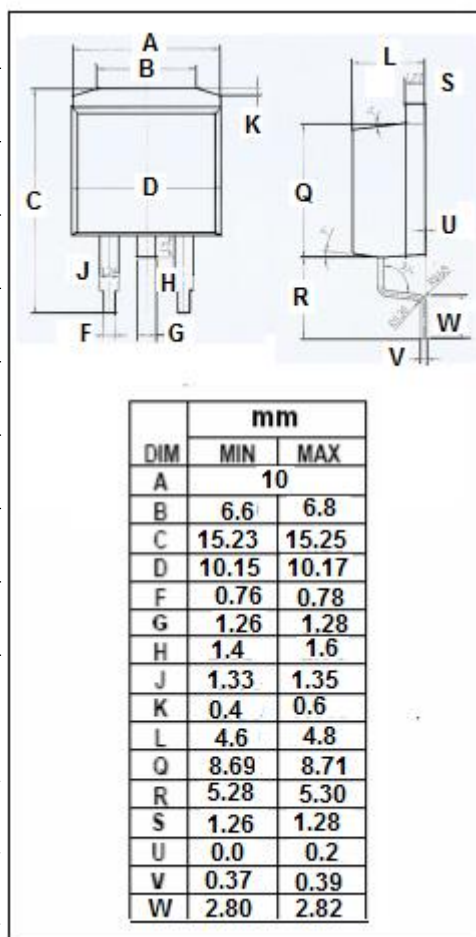
- Switching applications

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

| SYMBOL    | PARAMETER                      | VALUE    | UNIT             |
|-----------|--------------------------------|----------|------------------|
| $V_{DS}$  | Drain-Source Voltage           | 650      | V                |
| $V_{GS}$  | Gate-Source Voltage            | $\pm 30$ | V                |
| $I_D$     | Drain Current-Continuous       | 12       | A                |
| $I_{DM}$  | Drain Current-Single Pulsed    | 24       | A                |
| $P_D$     | Total Dissipation              | 180      | 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 | 0.69 | $^\circ\text{C/W}$ |



**isc N-Channel MOSFET Transistor****IXFA12N65X2****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

| SYMBOL              | PARAMETER                      | CONDITIONS                                                                                   | MIN | TYP | MAX       | UNIT |
|---------------------|--------------------------------|----------------------------------------------------------------------------------------------|-----|-----|-----------|------|
| BV <sub>DSS</sub>   | Drain-Source Breakdown Voltage | V <sub>GS</sub> =0V; I <sub>D</sub> = 0.25mA                                                 | 650 |     |           | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =±30V; I <sub>D</sub> =0.25mA                                                | 3.0 |     | 5.0       | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =6A                                                    |     |     | 310       | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0V                                                 |     |     | ±0.1      | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> = 650V; V <sub>GS</sub> = 0V; @T <sub>c</sub> =25°C<br>T <sub>c</sub> =125°C |     |     | 10<br>500 | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =12A, V <sub>GS</sub> = 0 V                                                  |     |     | 1.4       | V    |

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