

## isc N-Channel MOSFET Transistor

## IXFY8N65X2

## • FEATURES

- Drain Source Voltage-  
:  $V_{DS} = 650V(\text{Min})$
- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 450m\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% Avalanche Tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATION

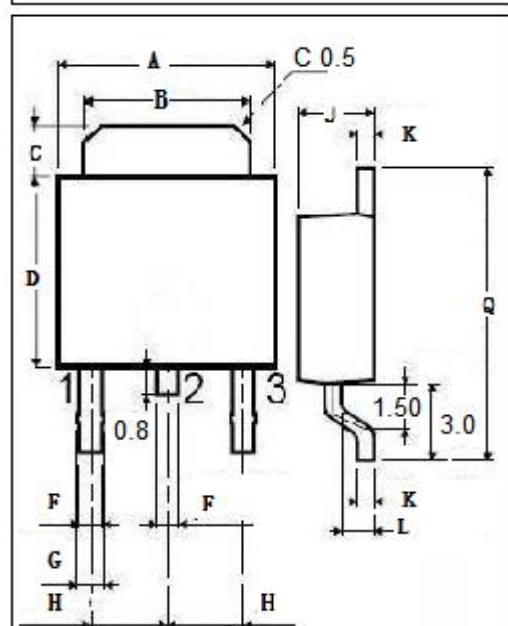
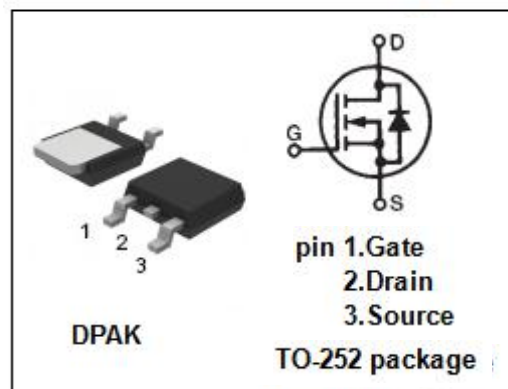
- Switched mode power supplies
- DC-DC converters

• 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                   | 8        | A                |
| $I_{DM}$  | Drain Current-Single Pulsed                | 16       | A                |
| $P_D$     | Total Dissipation @ $T_c=25^\circ\text{C}$ | 150      | 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               |
|---------------|-------------------------------------|------|--------------------|
| $R_{th(j-c)}$ | Junction-to-case thermal resistance | 0.83 | $^\circ\text{C/W}$ |



| DIM | mm   |      |
|-----|------|------|
|     | MIN  | MAX  |
| A   | 6.40 | 6.60 |
| B   | 5.20 | 5.40 |
| C   | 1.15 | 1.35 |
| D   | 5.70 | 6.10 |
| E   | 0.65 |      |
| F   | 0.75 |      |
| G   | 2.10 | 2.50 |
| H   | 2.10 | 2.40 |
| I   | 0.40 | 0.60 |
| J   | 0.90 | 1.10 |
| K   | 9.90 | 10.1 |

**isc N-Channel MOSFET Transistor****IXFY8N65X2****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS   | MIN | MAX       | UNIT      |
|--------------|--------------------------------|--|-----|-----------|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V$ ; $I_D = 250\ \mu A$                             | 650 |           | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=V_{GS}$ ; $I_D = 250\ \mu A$                         | 3   | 5         | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V$ ; $I_D = 4A$                                    |     | 450       | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS} = \pm 30V$ ; $V_{DS}=0V$                             |     | $\pm 100$ | nA        |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=V_{DSS}$ ; $V_{GS}=0V$                               |     | 10        | $\mu A$   |
|              |                                | $V_{DS}=V_{DSS}$ ; $V_{GS}=0V$ ; $T_J = 125^{\circ}\text{C}$ |     | 500       |           |
| $V_{SD}$     | Diode forward voltage          | $I_F = 8A$ ; $V_{GS} = 0V$                                   |     | 1.4       | V         |

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