

## isc N-Channel MOSFET Transistor

## IXTP2R4N50P

## • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 3.75\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATION

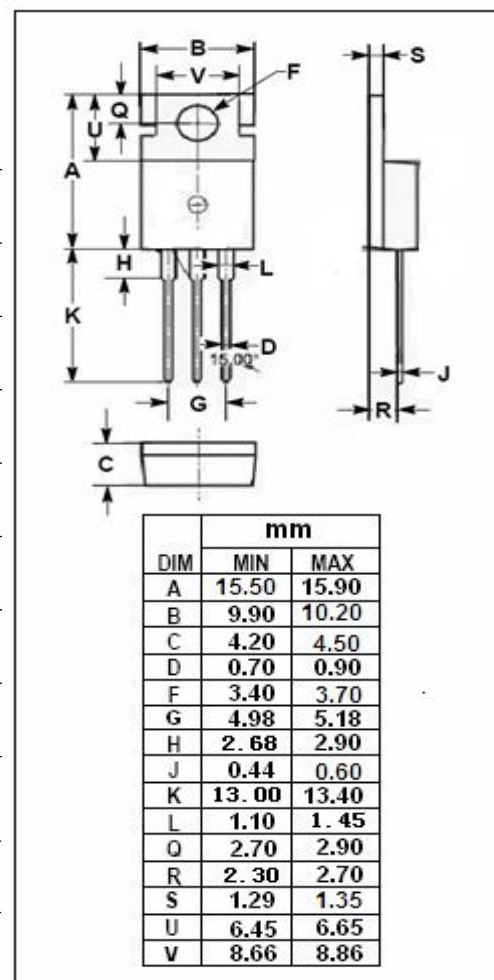
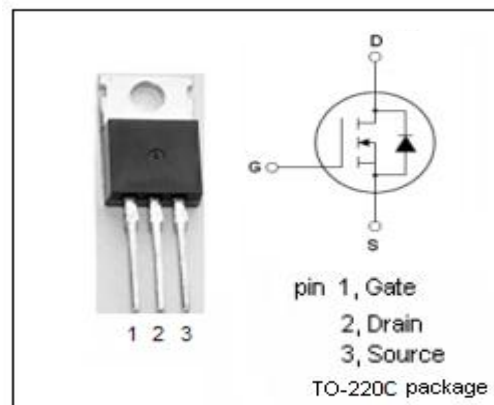
- DC/DC Converter
- Ideal for high-frequency switching and synchronous rectification

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

| SYMBOL    | PARAMETER                                  | VALUE    | UNIT             |
|-----------|--------------------------------------------|----------|------------------|
| $V_{DSS}$ | Drain-Source Voltage                       | 500      | V                |
| $V_{GS}$  | Gate-Source Voltage                        | $\pm 30$ | V                |
| $I_D$     | Drain Current-Continuous                   | 2.4      | A                |
| $I_{DM}$  | Drain Current-Single Pulsed                | 4.5      | A                |
| $P_D$     | Total Dissipation @ $T_c=25^\circ\text{C}$ | 55       | 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 | 2.27 | $^\circ\text{C/W}$ |



**isc N-Channel MOSFET Transistor****IXTP2R4N50P****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS                                                 | MIN | MAX      | UNIT     |
|--------------|--------------------------------|------------------------------------------------------------|-----|----------|----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V$ ; $I_D=250\ \mu A$                             | 500 |          | V        |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=V_{GS}$ ; $I_D=250\ \mu A$                         | 3.0 | 5.5      | V        |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V$ ; $I_D=1.2A$                                  |     | 3.75     | $\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 30V$ ; $V_{DS}=0V$                             |     | $\pm 50$ | nA       |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=V_{DSS}$ ; $V_{GS}=0V$                             |     | 1        | $\mu A$  |
|              |                                | $V_{DS}=V_{DSS}$ ; $V_{GS}=0V$ ; $T_J=125^{\circ}\text{C}$ |     | 50       |          |
| $V_{SD}$     | Diode forward voltage          | $I_F=2.4A$ ; $V_{GS}=0V$                                   |     | 1.5      | V        |

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