

isc N-Channel MOSFET Transistor

IXTP6N50P

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 1.1\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATION

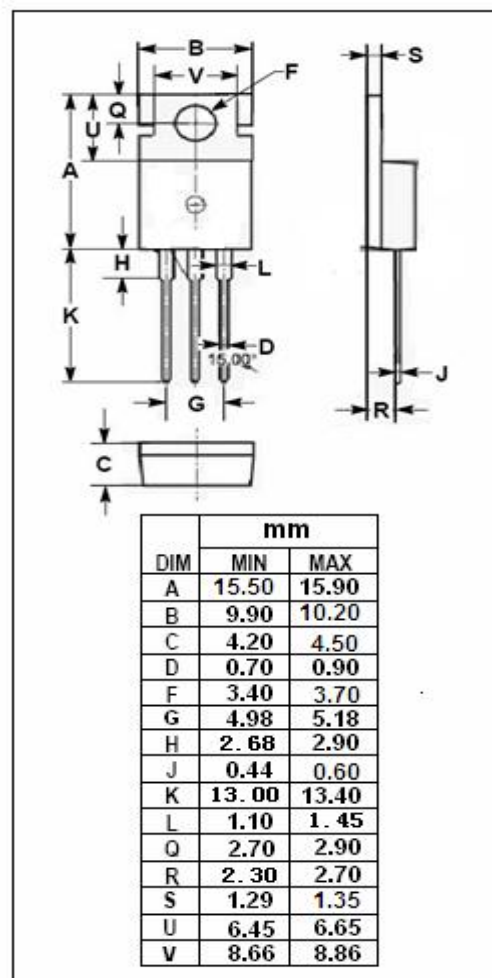
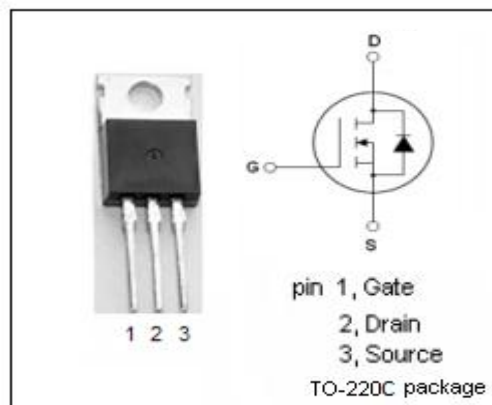
- DC/DC Converter
- Ideal for high-frequency switching and synchronous rectification

• 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 | ± 30 | V |
| I_D | Drain Current-Continuous | 6 | A |
| I_{DM} | Drain Current-Single Pulsed | 15 | A |
| P_D | Total Dissipation @ $T_c=25^\circ\text{C}$ | 100 | 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 | 1.25 | $^\circ\text{C/W}$ |



isc N-Channel MOSFET Transistor**IXTP6N50P****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 | $V_{DS}=V_{GS}$; $I_D = 50\ \mu A$ | 3.0 | 5.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10V$; $I_D = 3A$ | | 1.1 | Ω |
| I_{GSS} | Gate-Source Leakage Current | $V_{GS} = \pm 30V$; $V_{DS}=0V$ | | ± 100 | nA |
| I_{DSS} | Drain-Source Leakage Current | $V_{DS} = V_{DSS}$; $V_{GS} = 0V$ | | 5 | μA |
| | | $V_{DS} = V_{DSS}$; $V_{GS} = 0V$; $T_J = 125^{\circ}\text{C}$ | | 50 | |
| V_{SD} | Diode forward voltage | $I_F = 6A$; $V_{GS} = 0V$ | | 1.5 | V |

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