

isc N-Channel MOSFET Transistor

IXTH270N04T4

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 4.7m\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATION

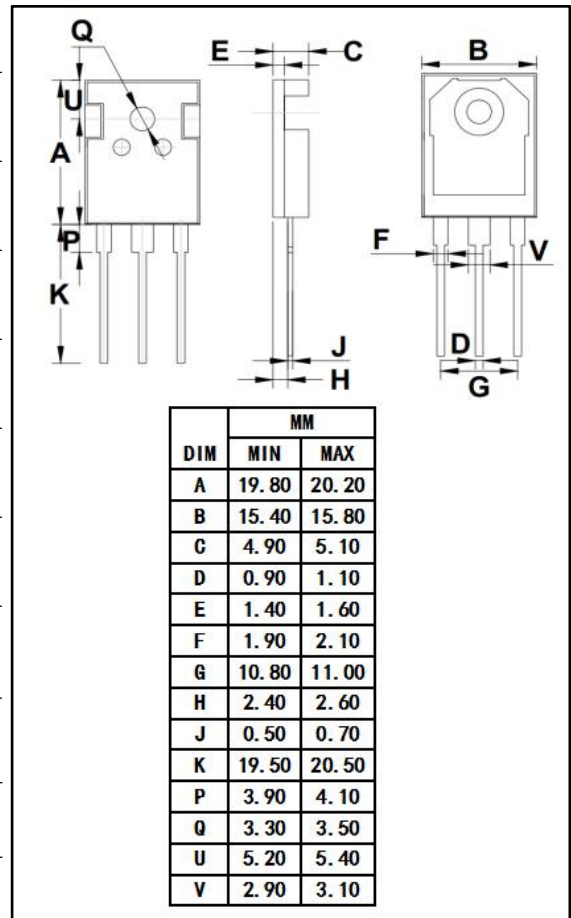
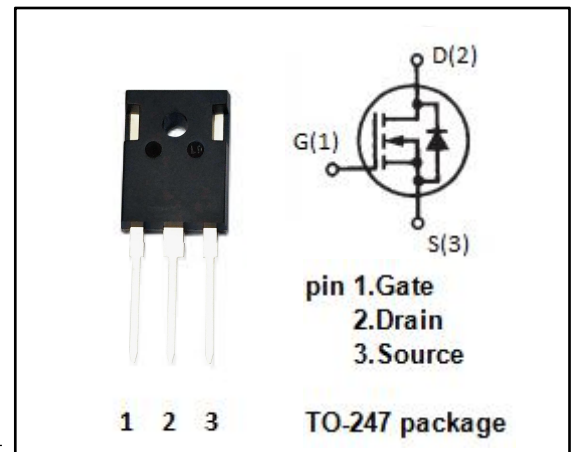
- DC/DC Converters
- High Current Switching Applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--------------------------------------|----------|------------|
| V_{DS} | Drain-Source Voltage | 100 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-Continuous | 230 | A |
| I_{DM} | Drain Current-Single Pulsed | 500 | A |
| P_D | Total Dissipation @ $T_C=25^\circ C$ | 650 | W |
| T_j | Operating Junction Temperature | -55~175 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55~175 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|-------------------------------------|------|--------------|
| $R_{th(j-c)}$ | Junction-to-case thermal resistance | 0.23 | $^\circ C/W$ |



isc N-Channel MOSFET Transistor**IXTH270N04T4****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|--------------|--------------------------------|--|-----|-----------|-----------|
| BV_{DSS} | Drain-Source Breakdown Voltage | $V_{GS}=0V$; $I_D = 250\ \mu A$ | 100 | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}$; $I_D = 250\ \mu A$ | 2.5 | 4.5 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10V$; $I_D = 115A$ | | 4.7 | $m\Omega$ |
| I_{GSS} | Gate-Source Leakage Current | $V_{GS} = \pm 20V$; $V_{DS}=0V$ | | ± 200 | nA |
| I_{DSS} | Drain-Source Leakage Current | $V_{DS} = V_{DSS}$; $V_{GS} = 0V$ | | 50 | μA |
| | | $V_{DS} = V_{DSS}$; $V_{GS} = 0V$; $T_J = 150^{\circ}\text{C}$ | | 3000 | |
| V_{SD} | Diode forward voltage | $I_F = 100A$; $V_{GS} = 0V$ | | 1.3 | V |

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