

isc N-Channel MOSFET Transistor

IXTQ86N25T

• FEATURES

- Drain Source Voltage-
: $V_{DS} = 250V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 37m\Omega (\text{Max})$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

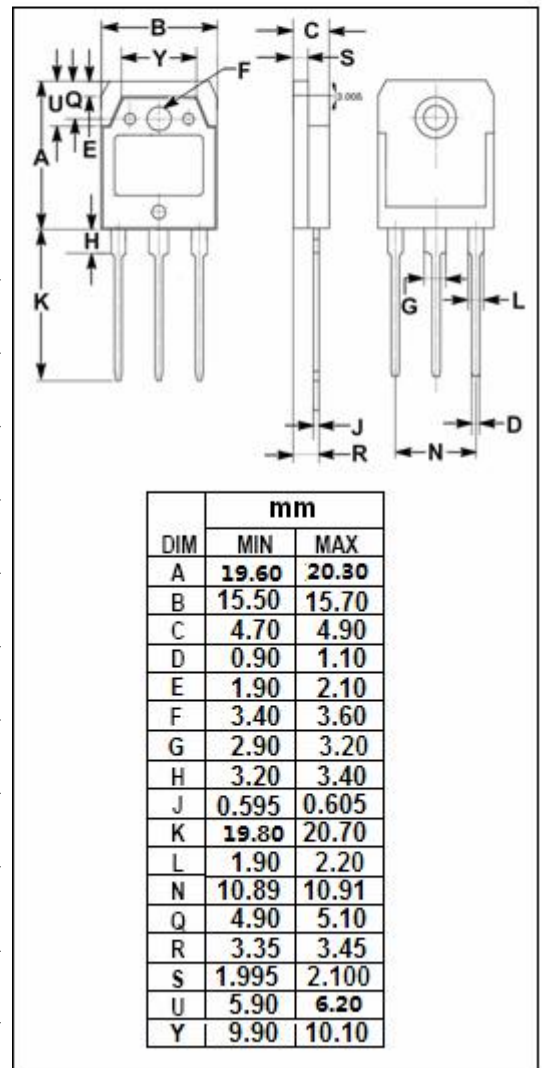
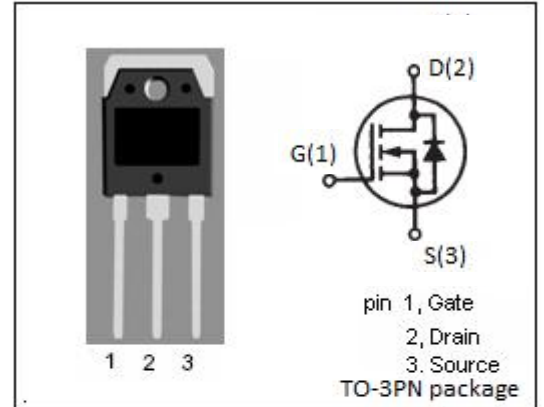
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives
- Robotics and Servo Controls

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------------|
| V_{DS} | Drain-Source Voltage | 250 | V |
| V_{GS} | Gate-Source Voltage-Continuous | ± 30 | V |
| I_D | Drain Current-Continuous | 86 | A |
| I_{DM} | Drain Current-Single Plused | 190 | A |
| P_D | Total Dissipation @ $T_c=25^\circ\text{C}$ | 540 | W |
| T_j | Max. Operating Junction Temperature | -55~150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------|--------------------------------------|------|--------------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 0.23 | $^\circ\text{C/W}$ |



isc N-Channel MOSFET Transistor**IXTQ86N25T****• ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|---------------|---------------------------------|---|-----|------|-----------|------------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0; I_D=250\mu\text{A}$ | 250 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}; I_D=1\text{mA}$ | 3 | | 5 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10\text{V}; I_D=43\text{A}$ | | | 37 | $\text{m}\Omega$ |
| I_{GSS} | Gate-Body Leakage Current | $V_{GS}=\pm 20\text{V}; V_{DS}=0$ | | | ± 200 | nA |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=250\text{V}; V_{GS}=0$ $V_{DS}=250\text{V}; V_{GS}=0; T_J=150^{\circ}\text{C}$ | | | 3 250 | μA |
| V_{SD} | Diode Forward On-voltage | $I_F=86\text{A}; V_{GS}=0$ | | | 1.5 | V |

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