

**isc N-Channel MOSFET Transistor**
**IXTH102N20T**
**• FEATURES**

- Drain Source Voltage-  
:  $V_{DSS} = 200V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 23m\Omega (\text{Max})$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATIONS**

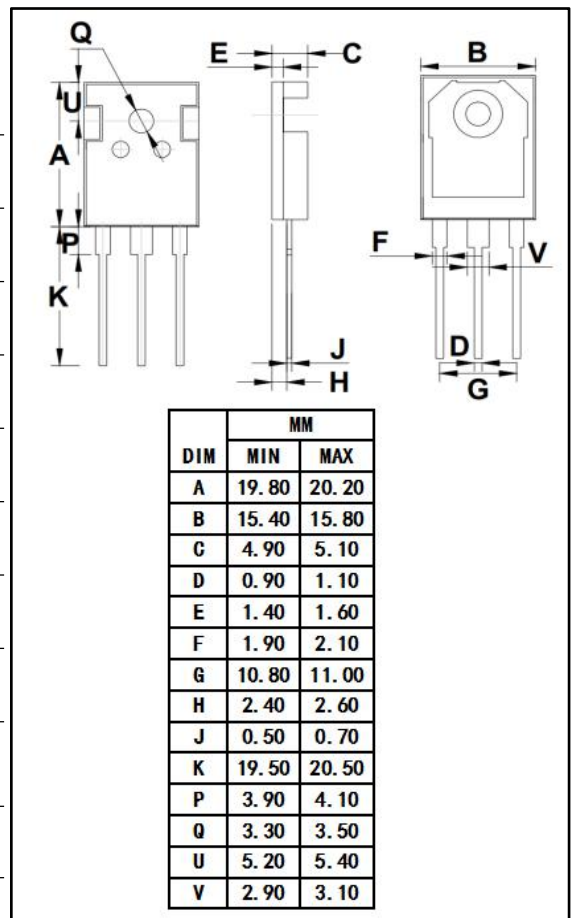
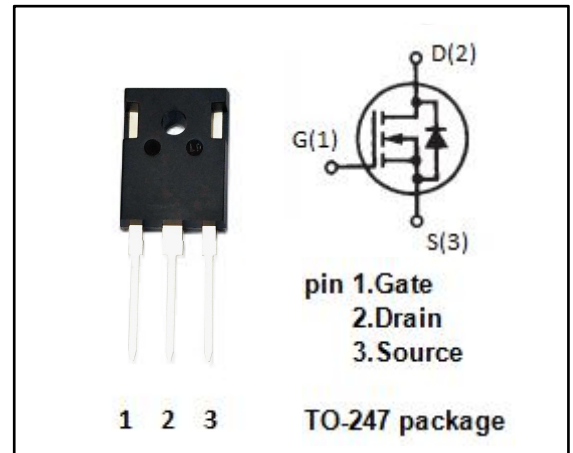
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives
- Robotics and Servo Controls

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

| SYMBOL    | PARAMETER                                  | VALUE    | UNIT             |
|-----------|--|----------|------------------|
| $V_{DSS}$ | Drain-Source Voltage                       | 200      | V                |
| $V_{GS}$  | Gate-Source Voltage-Continuous             | $\pm 30$ | V                |
| $I_D$     | Drain Current-Continuous                   | 102      | A                |
| $I_{DM}$  | Drain Current-Single Plused                | 250      | A                |
| $P_D$     | Total Dissipation @ $T_C=25^\circ\text{C}$ | 750      | W                |
| $T_j$     | Max. Operating Junction Temperature        | -55~175  | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                        | -55~175  | $^\circ\text{C}$ |

**• THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX | UNIT               |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.2 | $^\circ\text{C/W}$ |



## isc N-Channel MOSFET Transistor

## IXTH102N20T

## • ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

| SYMBOL               | PARAMETER                       | CONDITIONS  | MIN | TYPE | MAX      | UNIT |
|----------------------|---------------------------------|---|-----|------|----------|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> =250μA  | 200 |      |          | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =250uA   | 2.5 |      | 4.5      | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> = 61A   |     |      | 23       | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0   |     |      | ±200     | nA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> =200V; V <sub>GS</sub> = 0<br>V <sub>DS</sub> =200V; V <sub>GS</sub> = 0; T <sub>J</sub> =150°C |     |      | 5<br>250 | μA   |
| V <sub>SD</sub>      | Diode Forward On-voltage        | I <sub>F</sub> = 50A; V <sub>GS</sub> = 0   |     |      | 1.2      | V    |

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