

# isc N-Channel MOSFET Transistor

# IXTH152N085T

### • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 7.0m\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATION

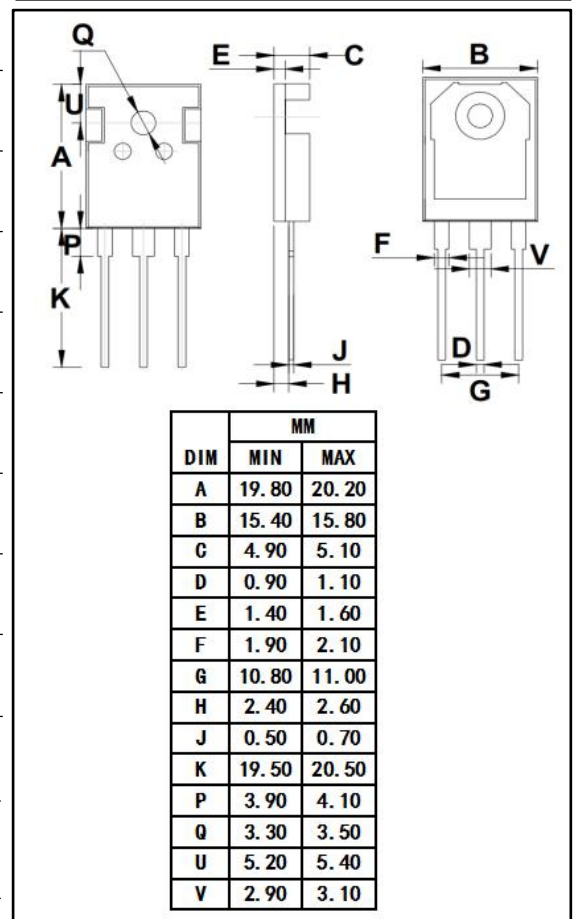
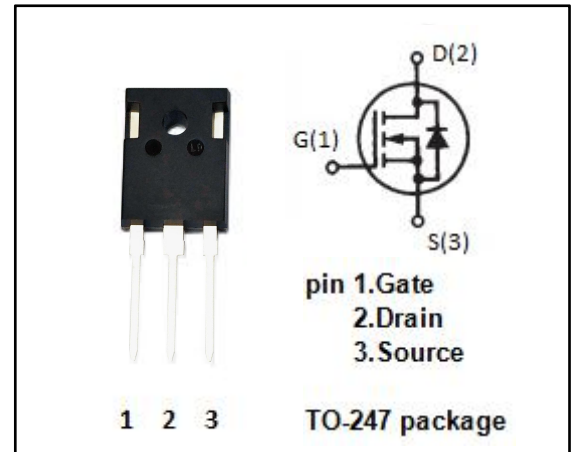
- DC/DC Converters
- High Current Switching Applications

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

| SYMBOL    | PARAMETER                            | VALUE    | UNIT       |
|-----------|--------------------------------------|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                 | 85       | V          |
| $V_{GS}$  | Gate-Source Voltage                  | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous             | 152      | A          |
| $I_{DM}$  | Drain Current-Single Pulsed          | 410      | A          |
| $P_D$     | Total Dissipation @ $T_c=25^\circ C$ | 360      | 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 | 0.42 | $^\circ C/W$ |



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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL              | PARAMETER                      | CONDITIONS                                                                        | MIN | MAX  | UNIT |
|---------------------|--------------------------------|-----------------------------------------------------------------------------------|-----|------|------|
| BV <sub>DSS</sub>   | Drain-Source Breakdown Voltage | V <sub>GS</sub> = 0V; I <sub>D</sub> = 250 μ A                                    | 85  |      | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 250 μ A                      | 2.0 | 4.0  | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> =10V; I <sub>D</sub> = 25A                                        |     | 7.0  | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±20V; V <sub>DS</sub> =0V                                       |     | ±200 | nA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> = V <sub>DSS</sub> ; V <sub>GS</sub> = 0V                         |     | 25   | μ A  |
|                     |                                | V <sub>DS</sub> = V <sub>DSS</sub> ; V <sub>GS</sub> = 0V; T <sub>J</sub> = 150°C |     | 250  |      |
| V <sub>SD</sub>     | Diode forward voltage          | I <sub>F</sub> = 25A; V <sub>GS</sub> = 0V                                        |     | 1.0  | V    |

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