

## isc N-Channel MOSFET Transistor

## IXFP180N10T2

## • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 6.0\text{m}\Omega @ V_{GS}=10\text{V}$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATION

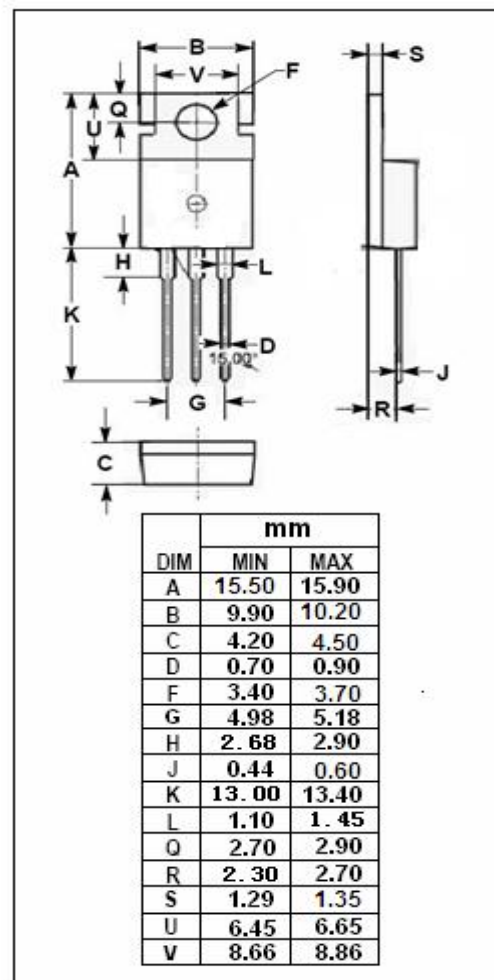
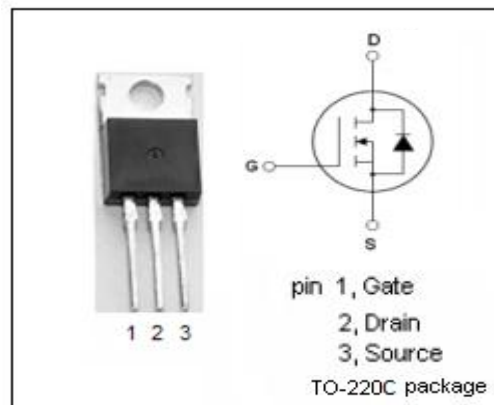
- DC/DC Converters
- High Speed Power Switching Applications

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

| SYMBOL    | PARAMETER                                  | VALUE    | UNIT             |
|-----------|--------------------------------------------|----------|------------------|
| $V_{DSS}$ | Drain-Source Voltage                       | 100      | V                |
| $V_{GS}$  | Gate-Source Voltage                        | $\pm 20$ | V                |
| $I_D$     | Drain Current-Continuous                   | 180      | A                |
| $I_{DM}$  | Drain Current-Single Pulsed                | 450      | A                |
| $P_D$     | Total Dissipation @ $T_c=25^\circ\text{C}$ | 480      | W                |
| $T_j$     | Operating Junction Temperature             | -55~175  | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                        | -55~175  | $^\circ\text{C}$ |

## • THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                           | MAX  | UNIT               |
|---------------|-------------------------------------|------|--------------------|
| $R_{th(j-c)}$ | Junction-to-case thermal resistance | 0.31 | $^\circ\text{C/W}$ |



**isc N-Channel MOSFET Transistor****IXFP180N10T2****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         | $V_{DS}=V_{GS}$ ; $I_D = 250\ \mu A$                       | 2.0 | 4.0       | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V$ ; $I_D = 50A$                                 |     | 6         | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 20V$ ; $V_{DS}=0V$                             |     | $\pm 100$ | nA        |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=V_{DSS}$ ; $V_{GS}=0V$                             |     | 10        | $\mu A$   |
|              |                                | $V_{DS}=V_{DSS}$ ; $V_{GS}=0V$ ; $T_J=150^{\circ}\text{C}$ |     | 750       |           |
| $V_{SD}$     | Diode forward voltage          | $I_F=100A$ ; $V_{GS}=0V$                                   |     | 1.3       | V         |

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