

## isc N-Channel MOSFET Transistor

## IXTM6N90

## FEATURES

- Drain Current  $I_D = 6A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 900V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 1.8 \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

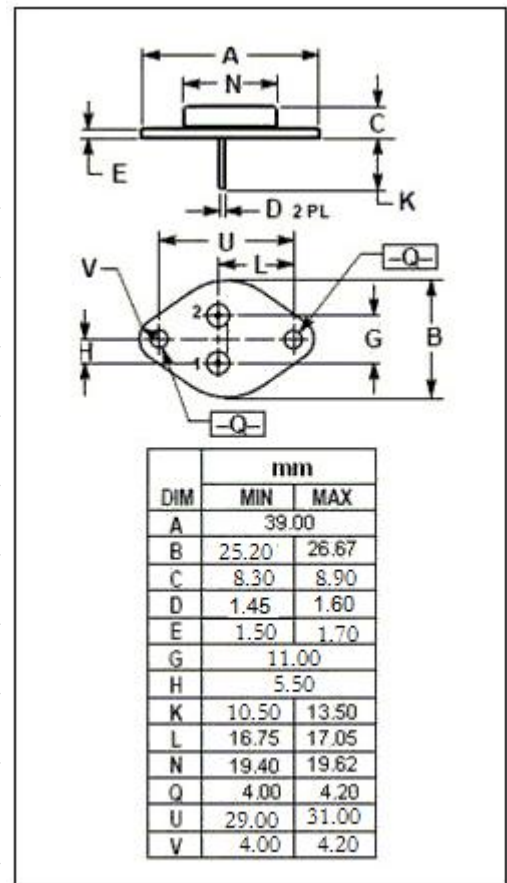
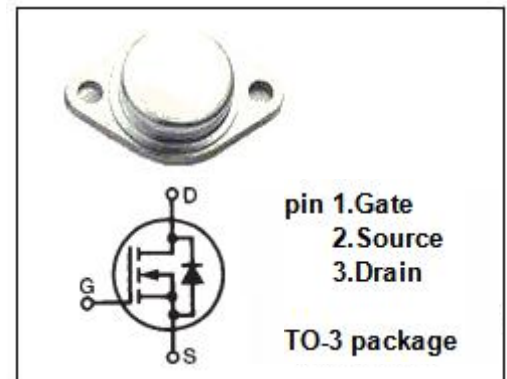
- Designed for use in switch mode power supplies and general purpose applications.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 900      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | 6        | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | 24       | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 180      | W          |
| $T_J$     | Max. Operating Junction Temperature    | -55~150  | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX | UNIT         |
|--------------|--------------------------------------|-----|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 0.7 | $^\circ C/W$ |



**isc N-Channel MOSFET Transistor****IXTM6N90****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

| SYMBOL               | PARAMETER                       | CONDITIONS                                                                                                        | MIN | MAX         | UNIT |
|----------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------|-----|-------------|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> = 3mA                                                                         | 900 |             | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 250μA                                                        | 2   | 4.5         | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> = 3A                                                                        |     | 1.8         | Ω    |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0                                                                       |     | ±100        | nA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 720V; V <sub>GS</sub> = 0<br>V <sub>DS</sub> = 720V; V <sub>GS</sub> = 0; T <sub>J</sub> =125°C |     | 250<br>1000 | μA   |
| V <sub>SD</sub>      | Forward On-Voltage              | I <sub>S</sub> = 6A; V <sub>GS</sub> = 0                                                                          |     | 1.5         | V    |

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