

isc N-Channel MOSFET Transistor

11N90

• FEATURES

- Drain Current  $I_D = 11A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 900V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 1.1 \Omega (\text{Max})$
- Fast Switching

• APPLICATIONS

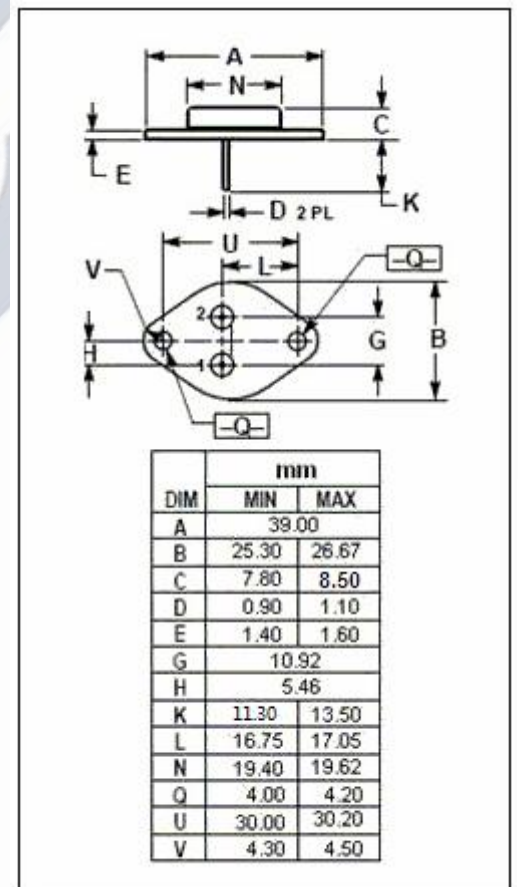
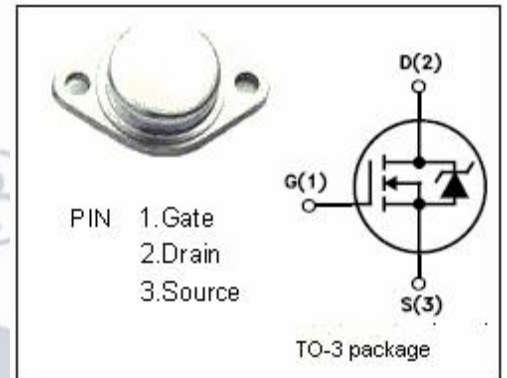
- Switch mode power supply.

• 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         | $\pm 30$ | V          |
| $I_D$     | Drain Current-Continuous               | 11       | A          |
| $I_{DM}$  | Drain Current-Single Plused            | 44       | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 160      | W          |
| $T_j$     | Max. Operating Junction Temperature    | 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    | 0.78 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 62.5 | $^\circ C/W$ |



## isc N-Channel Mosfet Transistor

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## • 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  | $V_{GS}=0; I_D=250\mu\text{A}$  | 900 |      |           | V             |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}; I_D=250\mu\text{A}$   | 3.0 |      | 5.0       | V             |
| $V_{SD}$      | Diode Forward On-voltage        | $I_S=11\text{A}; V_{GS}=0$  |     |      | 1.4       | V             |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}; I_D=5.5\text{A}$  |     |      | 1.1       | $\Omega$      |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 30\text{V}; V_{DS}=0$   |     |      | $\pm 100$ | nA            |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=900\text{V}; V_{GS}=0$  |     |      | 10        | $\mu\text{A}$ |
| $t_r$         | Rise Time                       | $V_{GS}=10\text{V};$<br>$I_D=11.0\text{A};$<br>$V_{DD}=450\text{V};$<br>$R_{GS}=25\Omega$ |     | 130  | 270       | ns            |
| $t_{d(on)}$   | Turn-on Delay Time              |   |     | 60   | 130       |               |
| $t_f$         | Fall Time                       |   |     | 85   | 180       |               |
| $t_{d(off)}$  | Turn-off Delay Time             |   |     | 130  | 270       |               |