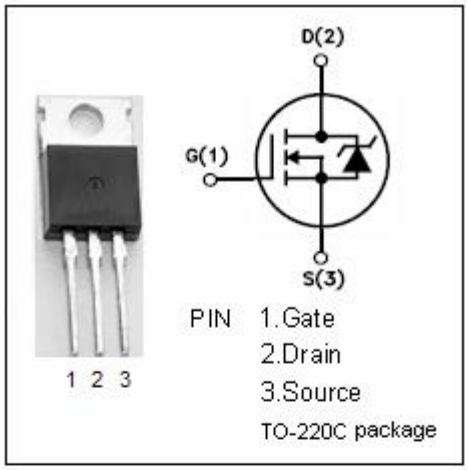
# isc N-Channel MOSFET Transistor 3N90

- **FEATURES**
- Drain Current $I_D$= 3A@ $T_C$=25℃
- Drain Source Voltage-
  : $V_{DSS}$= 900V(Min)
- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ = 4.8Ω (Max)
- Fast Switching



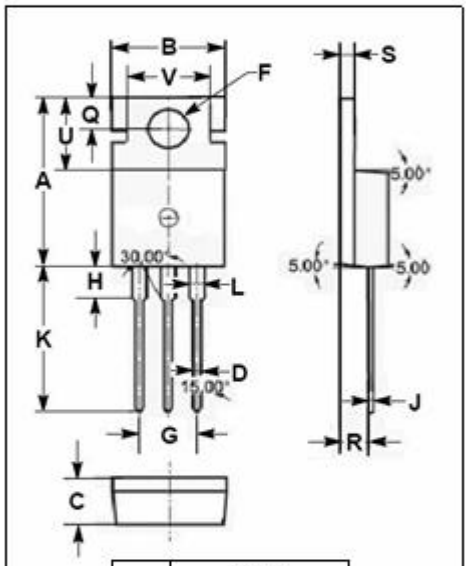

- **APPLICATIONS**
- Switching power supplies,converters,AC and DC motor controls

- **ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)**

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 900 | V |
| $V_{GS}$ | Gate-Source Voltage-Continuous | ±30 | V |
| $I_D$ | Drain Current-Continuous | 3 | A |
| $I_{DM}$ | Drain Current-Single Plused | 10 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 75 | W |
| $T_j$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

- **THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance, Junction to Case | 1.67 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance, Junction to Ambient | 62.5 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 15.70 | 15.90 |
| B | 9.90 | 10.10 |
| C | 4.20 | 4.40 |
| D | 0.70 | 0.90 |
| F | 3.40 | 3.60 |
| G | 4.98 | 5.18 |
| H | 2.70 | 2.90 |
| J | 0.44 | 0.46 |
| K | 13.20 | 13.40 |
| L | 1.10 | 1.30 |
| Q | 2.70 | 2.90 |
| R | 2.50 | 2.70 |
| S | 1.29 | 1.31 |
| U | 6.45 | 6.65 |
| V | 8.66 | 8.86 |



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# isc N-Channel MOSFET Transistor 3N90

## • ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$= 0; $I_D$=250μA | 900 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$= $V_{GS}$; $I_D$=250μA | 3.0 | | 4.5 | V |
| $V_{SD}$ | Diode Forward On-voltage | $I_S$= 3A ;$V_{GS}$= 0 | | | 1.6 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$= 10V; $I_D$= 1.5A | | | 4.8 | Ω |
| $I_{GSS}$ | Gate-Body Leakage Current | $V_{GS}$= ±30V;$V_{DS}$= 0 | | | ±10 | nA |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$=550V; $V_{GS}$= 0 | | | 1 | μA |
| $C_{iss}$ | Input Capacitance | $V_{DS}$=25V; $V_{GS}$=0V; $f_T$=1MHz | | 590 | | pF |
| $C_{rss}$ | Reverse Transfer capacitance | | | 13 | | |
| $C_{oss}$ | Output Capacitance | | | 63 | | |
| $t_r$ | Rise Time | $V_{GS}$=10V; $I_D$=1.5A; $V_{DD}$=450V; $R_L$=4.7Ω | | 7 | | ns |
| $t_{d(on)}$ | Turn-on Delay Time | | | 18 | | |
| $t_f$ | Fall Time | | | 18 | | |
| $t_{d(off)}$ | Turn-off Delay Time | | | 45 | | |

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