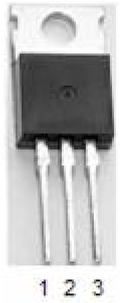
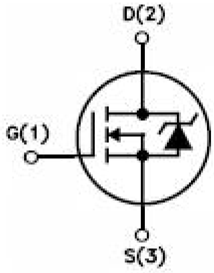
# isc N-Channel MOSFET Transistor STP180N10F3





pin 1, Gate
2, Drain
3, Source
TO-220C package

## DESCRIPTION

- Ultra low on-resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

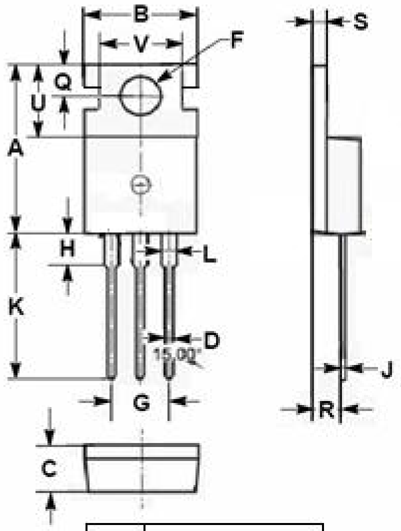
- Designed for high current switching applications

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage ($V_{GS}$=0) | 100 | V |
| $V_{GS}$ | Gate-Source Voltage | ±20 | V |
| $I_D$ | Drain Current-continuous@ TC=25℃ | 120 | A |
|  | Drain Current-continuous@ TC=100℃ | 120 |  |
| $I_{DM}$ | Drain Current-Single Plused | 480 | A |
| $P_{tot}$ | Total Dissipation@TC=25℃ | 315 | W |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 0.48 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance,Junction to Ambient | 62.5 | ℃/W |



| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 15.50 | 15.90 |
| B | 9.80 | 10.20 |
| C | 4.20 | 4.50 |
| D | 0.70 | 0.90 |
| F | 3.40 | 3.70 |
| G | 4.98 | 5.18 |
| H | 2.68 | 2.90 |
| J | 0.44 | 0.60 |
| K | 12.80 | 13.40 |
| L | 1.20 | 1.45 |
| Q | 2.70 | 2.90 |
| R | 2.30 | 2.70 |
| S | 1.29 | 1.35 |
| U | 6.45 | 6.65 |
| V | 8.66 | 8.86 |

## isc N-Channel Mosfet Transistor STP180N10F3

### • ELECTRICAL CHARACTERISTICS ($T_C$=25℃)

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$= 0; $I_D$= 0.25mA | 100 | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$= $V_{GS}$; $I_D$= 0.25mA | 2 | 4 | V |
| $R_{DS(on)}$ | Drain-Source On-stage Resistance | $V_{GS}$=10V; $I_D$= 60A | | 4.8 | mΩ |
| $I_{GSS}$ | Gate Source Leakage Current | $V_{GS}$= ±20V;$V_{DS}$= 0 | | ±200 | nA |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$= 100V; $V_{GS}$= 0 | | 10 | uA |
| $V_{SD*}$ | Diode Forward Voltage | $I_F$= 120A; $V_{GS}$=0 | | 1.5 | V |

*:pulse duration=300us,duty cycle 1.5%.