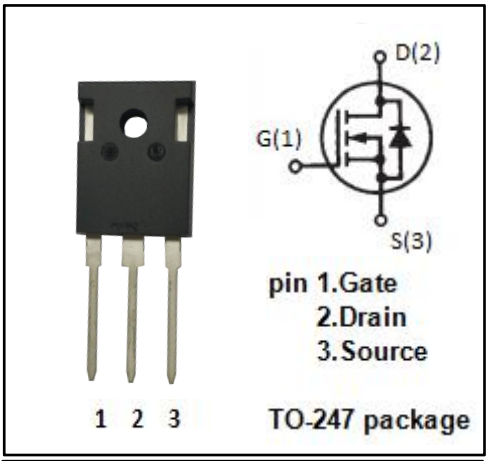
# isc N-Channel MOSFET Transistor 2SK3778-01




## FEATURES

- Drain Current : $I_D$= 59A@ $T_C$=25℃
- Drain Source Voltage
  : $V_{DSS}$= 250V(Min)
- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ = 53mΩ(Max) @ $V_{GS}$= 10V
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

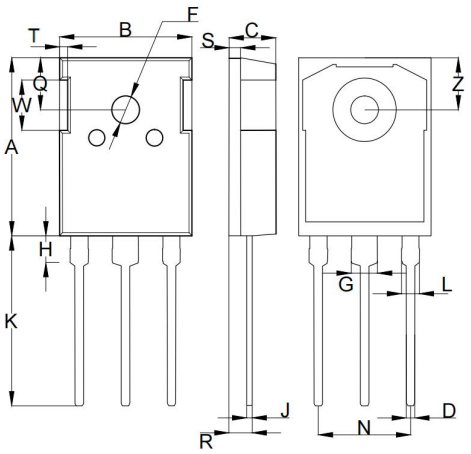
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 250 | V |
| $V_{GS}$ | Gate-Source Voltage-Continuous | ±30 | V |
| $I_D$ | Drain Current-Continuous | 59 | A |
| $I_{DM}$ | Drain Current-Single Pluse | 236 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 410 | W |
| $T_J$ | Max. Operating Junction Temperature | -55~150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance, Junction to Case | 0.305 | ℃/W |




| DIM | mm | |
|---|---|---|
| | MIN | MAX |
| A | 19.80 | 21.50 |
| B | 15.40 | 15.90 |
| C | 4.70 | 5.30 |
| D | 0.90 | 1.26 |
| F | 3.50 | 3.90 |
| G | 2.70 | 3.30 |
| H | 3.90 | 4.10 |
| J | 0.500 | 0.700 |
| K | 19.50 | 20.50 |
| L | 1.90 | 2.20 |
| N | 10.80 | 11.00 |
| Q | 6.00 | 6.30 |
| R | 2.90 | 3.30 |
| S | 1.80 | 2.20 |
| T | 2.15 | 2.35 |
| W | 4.90 | 5.10 |
| Z | 6.00 | 6.30 |

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$= 0; $I_D$= 0.25mA | 250 | -- | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$= 10V; $I_D$= 0.25mA | 3.0 | 5.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$= 10V; $I_D$= 29.5A | -- | 53 | mΩ |
| $I_{GSS}$ | Gate-Body Leakage Current | $V_{GS}$= ±30V;$V_{DS}$= 0 | -- | ±0.1 | uA |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$= 250V; $V_{GS}$= 0 | -- | 25 | uA |
| $V_{SD}$ | Forward On-Voltage | $I_S$= 59A; $V_{GS}$= 0 | -- | 1.5 | V |