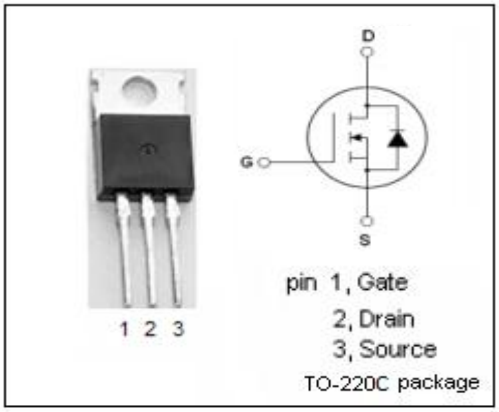
# isc N-Channel MOSFET Transistor TK100E08N1，ITK100E08N1




## • FEATURES

- Low drain-source on-resistance:
  $R_{DS}$(on) ≤3.2mΩ. ($V_{GS}$ = 10 V)
- Enhancement mode:
  Vth =2.0 to 4.0V ($V_{DS}$ = 10 V, $I_D$=1.0mA)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • DESCRITION

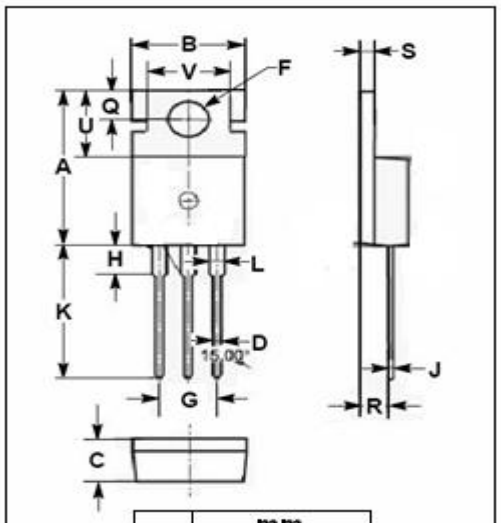
- Switching Voltage Regulators

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 80 | V |
| $V_{GS}$ | Gate-Source Voltage | ±20 | V |
| $I_D$ | Drain Current-Continuous | 100 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 568 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 255 | W |
| $T_j$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

## • THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| Rth(ch-c) | Channel-to-case thermal resistance | 0.49 | ℃/W |
| Rth(ch-a) | Channel-to-ambient thermal resistance | 83.3 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 15.50 | 15.90 |
| B | 9.90 | 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 | 13.00 | 13.40 |
| L | 1.10 | 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 |

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| $BV_{DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$=0V; $I_D$=10mA | 80 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$=10V; $I_D$=1.0mA | 2.0 | | 4.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$=10V; $I_D$=50A | | | 3.2 | mΩ |
| $I_{GSS}$ | Gate-Source Leakage Current | $V_{GS}$= ±20V;$V_{DS}$= 0V | | | ±0.1 | μA |
| $I_{DSS}$ | Drain-Source Leakage Current | $V_{DS}$=80V; $V_{GS}$= 0V | | | 10 | μA |
| $V_{SDF}$ | Diode forward voltage | $I_{DR}$ =100A, $V_{GS}$ = 0 V | | | 1.2 | V |