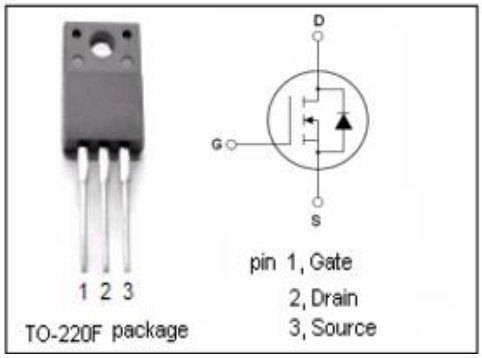
# isc N-Channel MOSFET Transistor TK19A50W, ITK19A50W

## • FEATURES

- Low drain-source on-resistance: $R_{DS}(ON)$ = 0.16Ω (typ.)
- Easy to control Gate switching
- Enhancement mode: Vth = 2.7 to 3.7 V ($V_{DS}$ = 10 V, $I_D$=0.79 mA)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

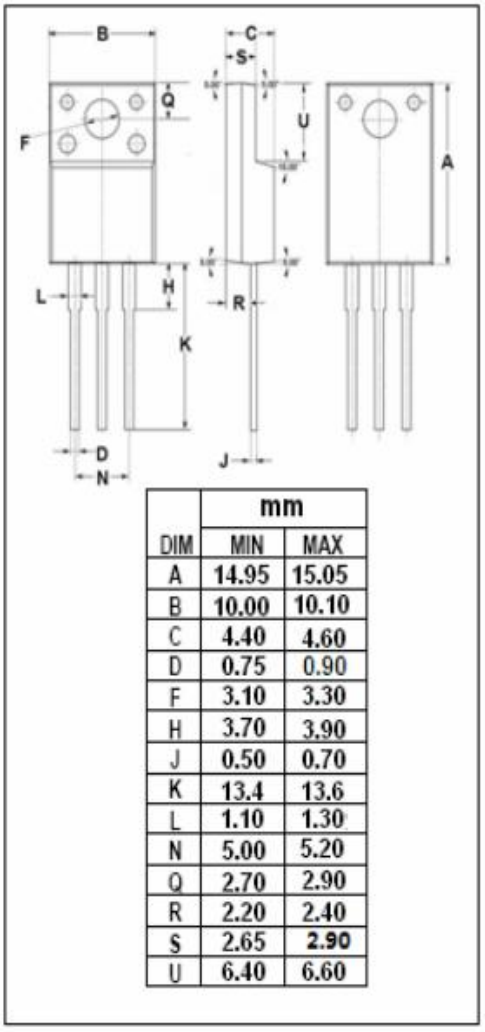



## • DESCRITION

- Switching Voltage Regulators

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 500 | V |
| $V_{GS}$ | Gate-Source Voltage | ±30 | V |
| $I_D$ | Drain Current-Continuous | 18.5 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 63.2 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 40 | W |
| $T_j$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 14.95 | 15.05 |
| B | 10.00 | 10.10 |
| C | 4.40 | 4.60 |
| D | 0.75 | 0.90 |
| F | 3.10 | 3.30 |
| H | 3.70 | 3.90 |
| J | 0.50 | 0.70 |
| K | 13.4 | 13.6 |
| L | 1.10 | 1.30 |
| N | 5.00 | 5.20 |
| Q | 2.70 | 2.90 |
| R | 2.20 | 2.40 |
| S | 2.65 | 2.90 |
| U | 6.40 | 6.60 |

## • THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| Rth(ch-c) | Channel-to-case thermal resistance | 3.13 | ℃/W |
| Rth(ch-a) | Channel-to-ambient thermal resistance | 62.5 | ℃/W |

# isc N-Channel MOSFET Transistor TK19A50W, ITK19A50W

## 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 | 500 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$= 10V; $I_D$= 0.79mA | 2.7 | | 3.7 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$= 10V; $I_D$=7.9A | | 160 | 190 | mΩ |
| $I_{GSS}$ | Gate-Source Leakage Current | $V_{GS}$= ±30V;$V_{DS}$= 0V | | | ±1 | μA |
| $I_{DSS}$ | Drain-Source Leakage Current | $V_{DS}$= 500V; $V_{GS}$= 0V | | | 10 | μA |
| $V_{SDF}$ | Diode forward voltage | $I_{DR}$ = 15.8 A, $V_{GS}$ = 0 V | | | 1.7 | V |