

iscN-Channel MOSFET Transistor
TK8A50D, ITK8A50D
• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 0.7\Omega$ (typ.)
- Enhancement mode:
 $V_{th} = 2.0$ to $4.0V$ ($V_{DS} = 10V, I_D = 1.0mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

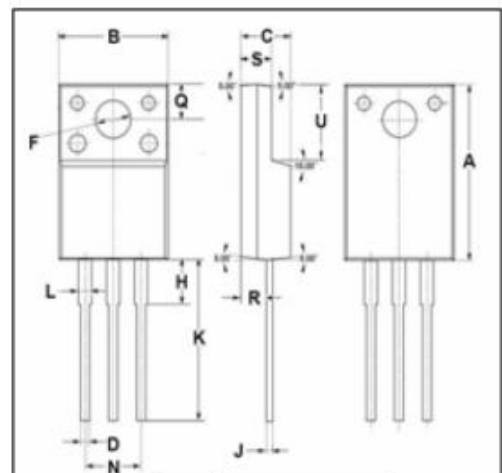
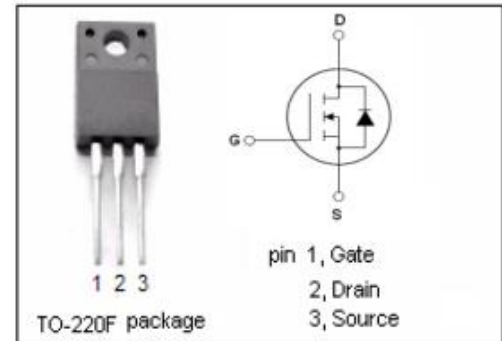
- Switching Voltage Regulators

• ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage | 500 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous | 8 | A |
| I_{DM} | Drain Current-Single Pulsed | 32 | A |
| P_D | Total Dissipation @ $T_c = 25^\circ C$ | 40 | W |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|----------------|---------------------------------------|-------|--------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 3.125 | $^\circ C/W$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62.5 | $^\circ C/W$ |



| 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 |

iscN-Channel MOSFET Transistor**TK8A50D, ITK8A50D****ELECTRICAL CHARACTERISTICS**T_C=25°C 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 =1.0mA | 2.0 | | 4.0 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} =10V; I _D =4A | | 700 | 850 | 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} =8A, V _{GS} = 0 V | | | 1.7 | V |

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