

**isc N-Channel MOSFET Transistor**

**2SK3566, I2SK3566**

**• FEATURES**

- Low drain-source on-resistance:  
 $R_{DS(on)} \leq 6.4\Omega$ .
- 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**

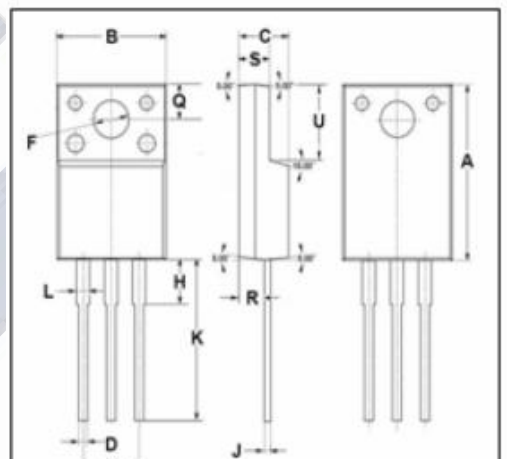
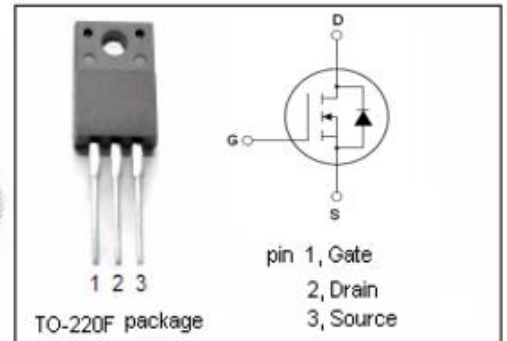
- Switching Voltage Regulators

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|--|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 900      | V          |
| $V_{GS}$  | Gate-Source Voltage                    | $\pm 30$ | V          |
| $I_D$     | Drain Current-Continuous               | 2.5      | A          |
| $I_{DM}$  | Drain Current-Single Pulsed            | 7.5      | 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  |

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**ELECTRICAL CHARACTERISTICS**

 T<sub>C</sub>=25°C unless otherwise specified

| SYMBOL              | PARAMETER                      | CONDITIONS                                   | MIN | TYP | MAX  | UNIT |
|---------------------|--------------------------------|--|-----|-----|------|------|
| BV <sub>DSS</sub>   | Drain-Source Breakdown Voltage | V <sub>GS</sub> =0V; I <sub>D</sub> = 10mA   | 900 |     |      | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> = 10V; I <sub>D</sub> =1.0mA | 2.0 |     | 4.0  | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> =10V; I <sub>D</sub> =1.5A   |     |     | 6400 | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±25V; V <sub>DS</sub> = 0V |     |     | ±10  | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> =720V; V <sub>GS</sub> = 0V  |     |     | 100  | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>DR</sub> =2.5A, V <sub>GS</sub> = 0 V |     |     | 1.7  | V    |