

## isc N-Channel MOSFET Transistor

2SK3712

## FEATURES

- Drain Current :  $I_D = 9.0A @ T_C = 25^\circ C$
- Drain Source Voltage  
:  $V_{DSS} = 250V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 580m\Omega (\text{Max}) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

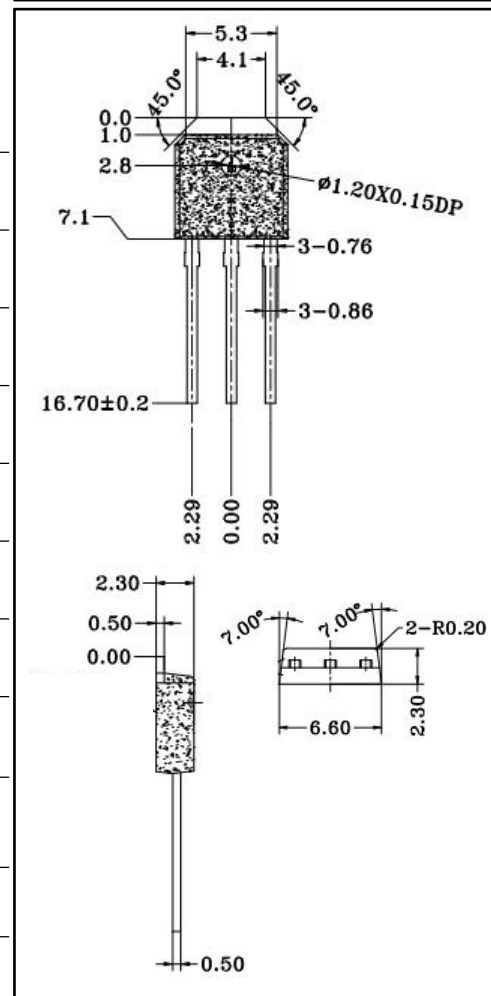
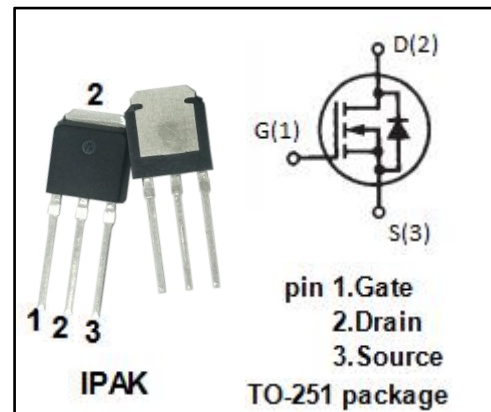
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 250      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 30$ | V          |
| $I_D$     | Drain Current-Continuous               | 9.0      | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | 27       | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 40       | W          |
| $T_J$     | Max. Operating Junction Temperature    | -55~150  | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX   | UNIT         |
|--------------|--------------------------------------|-------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 3.125 | $^\circ C/W$ |



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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL               | PARAMETER                       | CONDITIONS                                    | MIN | MAX | UNIT |
|----------------------|---------------------------------|-----------------------------------------------|-----|-----|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> = 1.0mA   | 250 | --  | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = 10V; I <sub>D</sub> = 1.0mA | 2.5 | 4.5 | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> = 4.5A  | --  | 580 | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0   | --  | ±10 | uA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 250V; V <sub>GS</sub> = 0   | --  | 10  | uA   |
| V <sub>SD</sub>      | Forward On-Voltage              | I <sub>S</sub> = 9.0A; V <sub>GS</sub> = 0    | --  | 1.5 | V    |

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