

**isc N-Channel MOSFET Transistor**
**2SK2233**
**FEATURES**

- Drain Current  $-I_D = 45A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 60V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 30m\Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**DESCRIPTION**

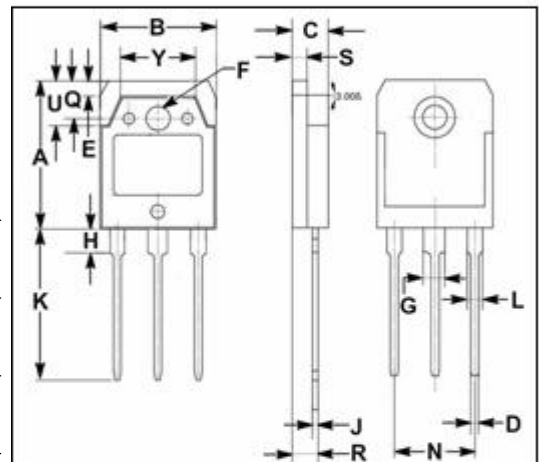
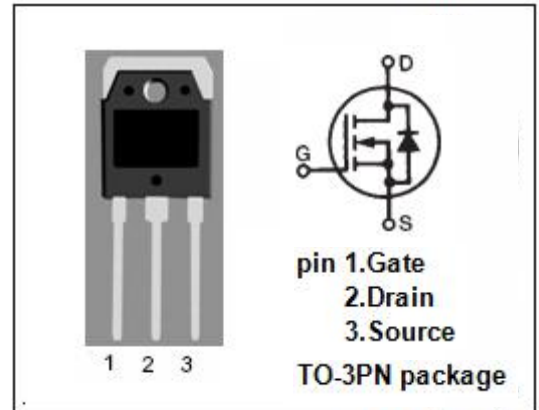
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|--|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                   | 60       | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | 45       | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | 180      | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 100      | W          |
| $T_J$     | Max. Operating Junction Temperature    | 150      | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX  | UNIT         |
|---------------|--------------------------------------|------|--------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.25 | $^\circ C/W$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 19.60 | 20.30 |
| B   | 15.50 | 15.70 |
| C   | 4.70  | 4.90  |
| D   | 0.90  | 1.10  |
| E   | 1.90  | 2.10  |
| F   | 3.40  | 3.60  |
| G   | 2.90  | 3.20  |
| H   | 3.20  | 3.40  |
| J   | 0.595 | 0.605 |
| K   | 19.80 | 20.70 |
| L   | 1.90  | 2.20  |
| N   | 10.89 | 10.91 |
| Q   | 4.90  | 5.10  |
| R   | 3.35  | 3.45  |
| S   | 1.995 | 2.100 |
| U   | 5.90  | 6.20  |
| Y   | 9.90  | 10.10 |

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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> = 10mA  | 60  | --  | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = 10V; I <sub>D</sub> = 1mA | 0.8 | 2.0 | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> = 25A | --  | 30  | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±16V; V <sub>DS</sub> = 0 | --  | ±10 | uA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 60V; V <sub>GS</sub> = 0  | --  | 0.1 | mA   |
| V <sub>SD</sub>      | Forward On-Voltage              | I <sub>S</sub> = 45A; V <sub>GS</sub> = 0   | --  | 1.8 | V    |

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