

## isc N-Channel MOSFET Transistor

## FS70SM-2

## FEATURES

- Drain Current  $-I_D=70A@T_C=25^{\circ}C$
- Drain Source Voltage  $-V_{DSS}=100V(\text{Min})$
- Static Drain-Source On-Resistance  
 $-R_{DS(on)}=20m\Omega(\text{Max})$

## DESCRIPTION

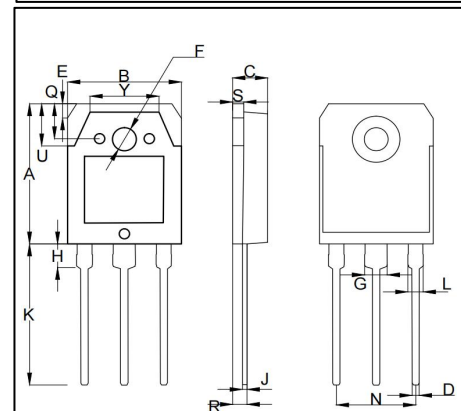
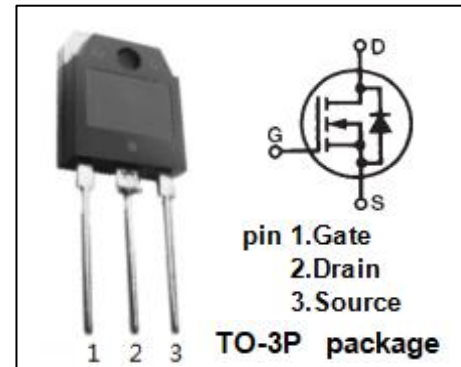
- Motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                             | VALUE    | UNIT        |
|-----------|---------------------------------------|----------|-------------|
| $V_{DSS}$ | Drain-Source Voltage                  | 100      | V           |
| $V_{GS}$  | Gate-Source Voltage-Continuous        | $\pm 20$ | V           |
| $I_D$     | Drain Current-Continuous              | 70       | A           |
| $I_{DM}$  | Drain Current-Single Pluse            | 280      | A           |
| $P_D$     | Total Dissipation @ $T_C=25^{\circ}C$ | 150      | 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 | 0.83 | $^{\circ}C/W$ |



| DIM | mm    |       |       |
|-----|-------|-------|-------|
|     | MIN   | TYP.  | MAX   |
| A   | 19.70 | 19.95 | 20.20 |
| B   | 15.45 | 15.60 | 15.75 |
| C   | 4.70  | 4.80  | 4.90  |
| D   | 0.90  | 1.00  | 1.10  |
| E   | 1.80  | 2.00  | 2.20  |
| F   | 3.40  | 3.50  | 3.60  |
| G   | 2.95  | 3.10  | 3.25  |
| H   | 3.10  | 3.25  | 3.40  |
| J   | 0.50  | 0.60  | 0.70  |
| K   | 19.80 | 20.00 | 20.20 |
| L   | 2.00  | 2.10  | 2.20  |
| M   | 13.30 | 13.60 | 13.90 |
| N   | 10.80 | 10.90 | 11.00 |
| Q   | 4.25  | 4.68  | 5.10  |
| R   | 1.75  | 2.03  | 2.30  |
| S   | 1.40  | 1.50  | 1.60  |
| U   | 5.90  | 6.05  | 6.20  |
| Y   | 9.45  | 9.60  | 9.75  |

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ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C unless otherwise specified)

| SYMBOL               | PARAMETER                       | CONDITIONS   | MIN | TYP. | MAX  | UNIT |
|----------------------|---------------------------------|--|-----|------|------|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> =1mA                 | 100 | --   | --   | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 1mA | 2.0 | 3.0  | 4.0  | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> =10V; I <sub>D</sub> =35A                | --  | 14   | 20   | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0              | --  | --   | ±0.1 | uA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> =100V; V <sub>GS</sub> = 0               | --  | --   | 0.1  | mA   |
| V <sub>SD</sub>      | Forward On-Voltage              | I <sub>S</sub> =35A; V <sub>GS</sub> = 0                 | --  | 1.0  | 1.5  | V    |

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