

## isc N-Channel MOSFET Transistor

## FDP6670S

## FEATURES

- Drain Current  $-I_D = 62A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DS} = 30V (Min)$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 8.5m\Omega (Max) @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

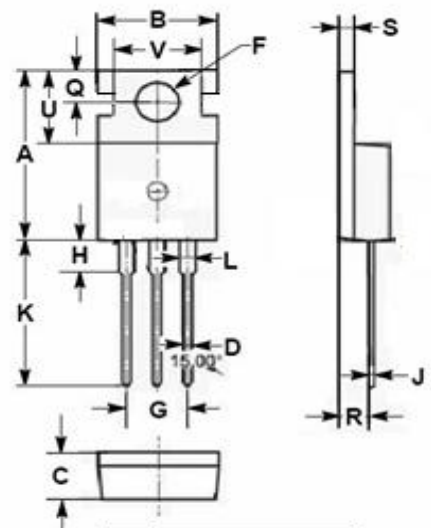
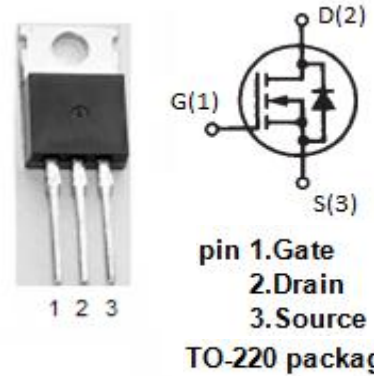
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DS}$  | Drain-Source Voltage                   | 30       | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | 62       | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | 150      | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 62.5     | 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 | 2.1 | $^\circ C/W$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 15.50 | 15.90 |
| B   | 9.80  | 10.20 |
| C   | 4.20  | 4.50  |
| D   | 0.70  | 0.90  |
| F   | 3.40  | 3.70  |
| G   | 4.98  | 5.18  |
| H   | 2.68  | 2.90  |
| J   | 0.44  | 0.60  |
| K   | 12.80 | 13.40 |
| L   | 1.20  | 1.45  |
| Q   | 2.70  | 2.90  |
| R   | 2.30  | 2.70  |
| S   | 1.29  | 1.35  |
| U   | 6.45  | 6.65  |
| V   | 8.66  | 8.86  |

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## ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL        | PARAMETER                       | CONDITIONS                                | MIN | MAX       | UNIT             |
|---------------|---------------------------------|-------------------------------------------|-----|-----------|------------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage  | $V_{GS}=0$ ; $I_D=1\text{mA}$             | 30  | --        | V                |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}$ ; $I_D=0.25\text{mA}$     | 1.0 | 3.0       | V                |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}$ ; $I_D=31\text{A}$    | --  | 8.5       | $\text{m}\Omega$ |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=4.5\text{V}$ ; $I_D=26.5\text{A}$ | --  | 10.5      | $\text{m}\Omega$ |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$      | --  | $\pm 100$ | nA               |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=24\text{V}$ ; $V_{GS}=0$          | --  | 500       | $\mu\text{A}$    |
| $V_{SD}$      | Forward On-Voltage              | $I_S=3.5\text{A}$ ; $V_{GS}=0$            | --  | 0.7       | V                |
| $V_{SD}$      | Forward On-Voltage              | $I_S=7\text{A}$ ; $V_{GS}=0$              | --  | 0.9       | V                |

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