

## isc N-Channel MOSFET Transistor

## FQP30N06L

## FEATURES

- Drain Current  $-I_D = 32A @ T_C = 25^\circ C$
- Drain Source Voltage  $-V_{DSS} = 60V (Min)$
- Static Drain-Source On-Resistance  
 $-R_{DS(on)} = 35m\Omega (Max) @ V_{GS} = 10V$

## DESCRIPTION

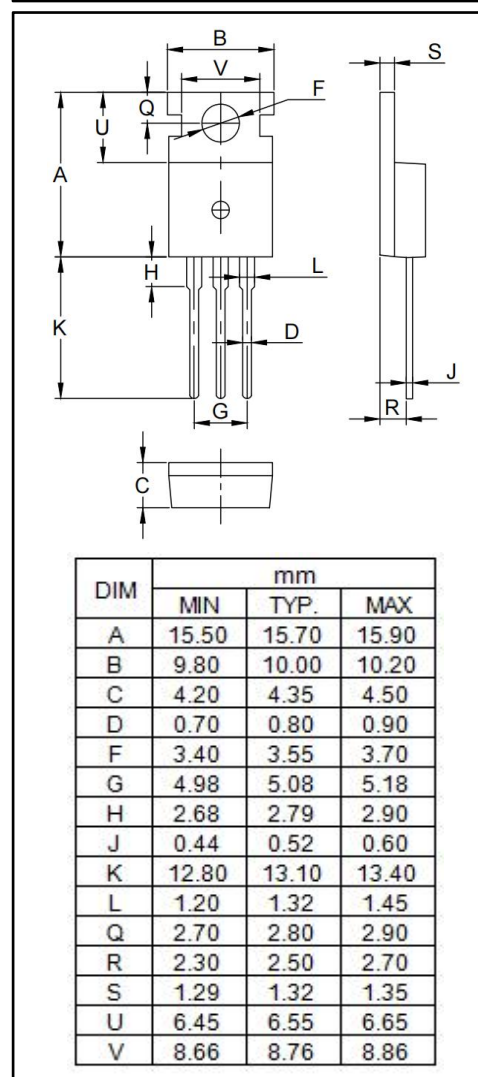
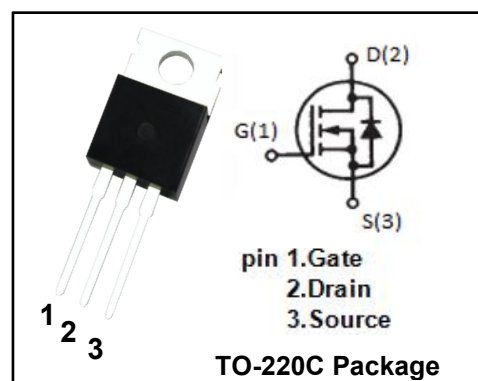
- Motor drive, DC-DC converter, power switch  
and solenoid drive.

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               | 32       | A          |
| $I_{DM}$  | Drain Current-Single Pulse             | 128      | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 79       | W          |
| $T_J$     | Max. Operating Junction Temperature    | 175      | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~175  | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX  | UNIT         |
|--------------|--------------------------------------|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 1.90 | $^\circ C/W$ |



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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  | $V_{GS}=0$ ; $I_D=0.25\text{mA}$             | 60  | --        | V                |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=60\text{V}$ ; $V_{GS}=0\text{V}$     | --  | 1         | $\mu\text{A}$    |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0\text{V}$ | --  | $\pm 100$ | nA               |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}$ ; $I_D=0.25\text{mA}$        | 1.0 | 2.5       | V                |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}$ ; $I_D=16\text{A}$       | --  | 35        | $\text{m}\Omega$ |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=5\text{V}$ ; $I_D=16\text{A}$        | --  | 45        | $\text{m}\Omega$ |
| $V_{SD}$      | Forward On-Voltage              | $I_S=32\text{A}$ ; $V_{GS}=0\text{V}$        | --  | 1.5       | V                |

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