

isc N-Channel MOSFET Transistor

FS7SM-14A

FEATURES

- Drain Current $-I_D=7A@T_C=25^{\circ}C$
- Drain Source Voltage $-V_{DSS}=700V(\text{Min})$
- Static Drain-Source On-Resistance
 $-R_{DS(on)}=1.82\Omega(\text{Max})$

DESCRIPTION

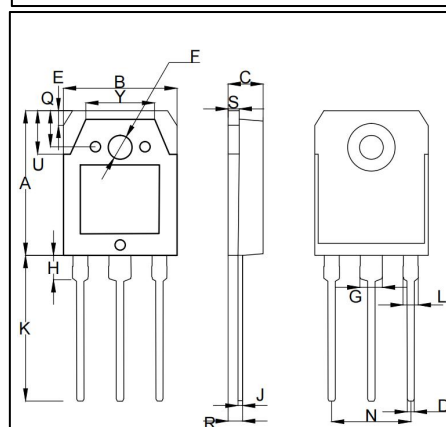
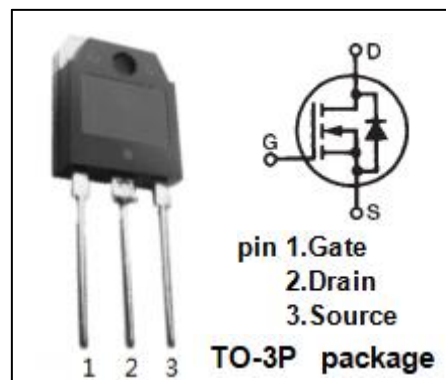
- Motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---------------------------------------|----------|-------------|
| V_{DSS} | Drain-Source Voltage | 700 | V |
| V_{GS} | Gate-Source Voltage-Continuous | ± 30 | V |
| I_D | Drain Current-Continuous | 7 | A |
| I_{DM} | Drain Current-Single Pluse | 21 | A |
| P_D | Total Dissipation @ $T_C=25^{\circ}C$ | 125 | 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 | 1.0 | $^{\circ}C/W$ |



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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|---------------------------------|------------------------------------|-----|------|----------|---------------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0; I_D=1\text{mA}$ | 700 | -- | -- | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}; I_D=1\text{mA}$ | 2.0 | 3.0 | 4.0 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10\text{V}; I_D=3\text{A}$ | -- | 1.40 | 1.82 | Ω |
| I_{GSS} | Gate-Body Leakage Current | $V_{GS}= \pm 25\text{V}; V_{DS}=0$ | -- | -- | ± 10 | μA |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=700\text{V}; V_{GS}=0$ | -- | -- | 1 | mA |
| V_{SD} | Forward On-Voltage | $I_S=3\text{A}; V_{GS}=0$ | -- | 1.0 | 1.5 | V |

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