

## isc N-Channel MOSFET Transistor

FDD8778

## FEATURES

- Drain Current :  $I_D=35A@T_C=25^\circ C$
- Drain Source Voltage  
:  $V_{DSS}=25V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 14m\Omega (\text{Max}) @V_{GS}= 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

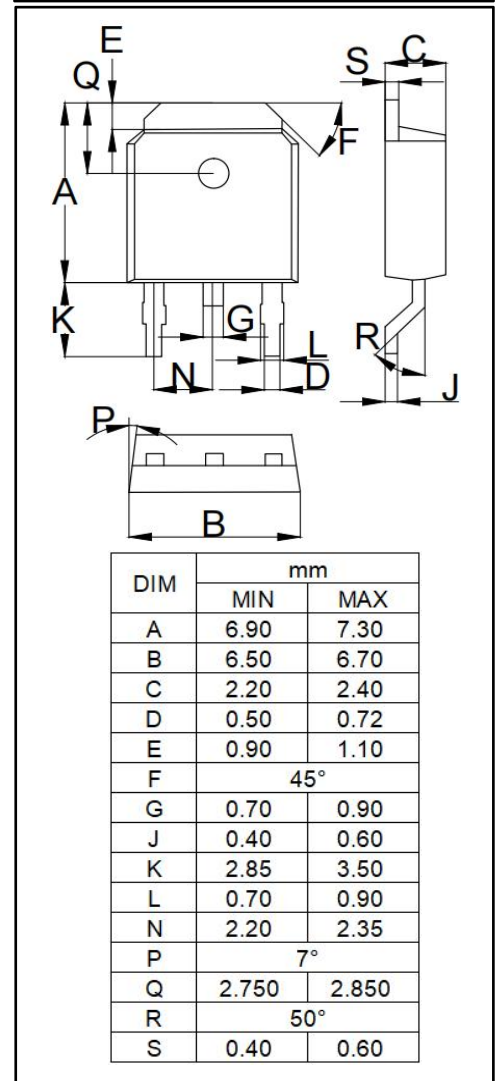
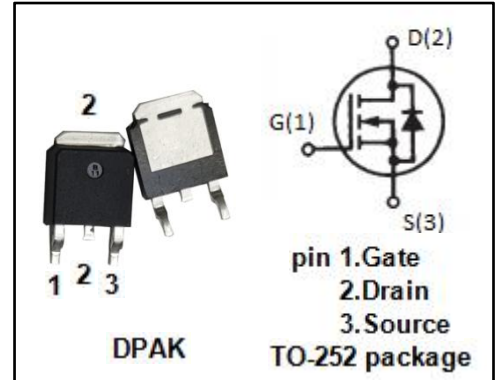
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL    | PARAMETER                            | VALUE    | UNIT       |
|-----------|--------------------------------------|----------|------------|
| $V_{DSS}$ | Drain-Source Voltage                 | 25       | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous       | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous             | 35       | A          |
| $I_{DM}$  | Drain Current-Single Pluse           | 145      | A          |
| $P_D$     | Total Dissipation @ $T_C=25^\circ C$ | 39       | W          |
| $T_J$     | Max. Operating Junction Temperature  | -55~175  | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                  | -55~175  | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX | UNIT         |
|--------------|--------------------------------------|-----|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 3.8 | $^\circ C/W$ |



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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  | $V_{GS}=0$ ; $I_D=0.25\text{mA}$        | 25  | -         | V                |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}$ ; $I_D=0.25\text{mA}$   | 1.2 | 2.5       | V                |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=10\text{V}$ ; $I_D=35\text{A}$  | -   | 14        | $\text{m}\Omega$ |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=4.5\text{V}$ ; $I_D=33\text{A}$ | -   | 21        | $\text{m}\Omega$ |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$    | -   | $\pm 100$ | nA               |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=20\text{V}$ ; $V_{GS}=0$        | -   | 1.0       | $\mu\text{A}$    |
| $V_{SD}$      | Forward On-Voltage              | $I_S=35\text{A}$ ; $V_{GS}=0$           | -   | 1.25      | V                |
| $V_{SD}$      | Forward On-Voltage              | $I_S=15\text{A}$ ; $V_{GS}=0$           | -   | 1.2       | V                |

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