

## isc P-Channel MOSFET Transistor

AOD4185

## FEATURES

- Drain Current  $-I_D = -40A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DS} = -40V (Min)$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 15m\Omega (Max)$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

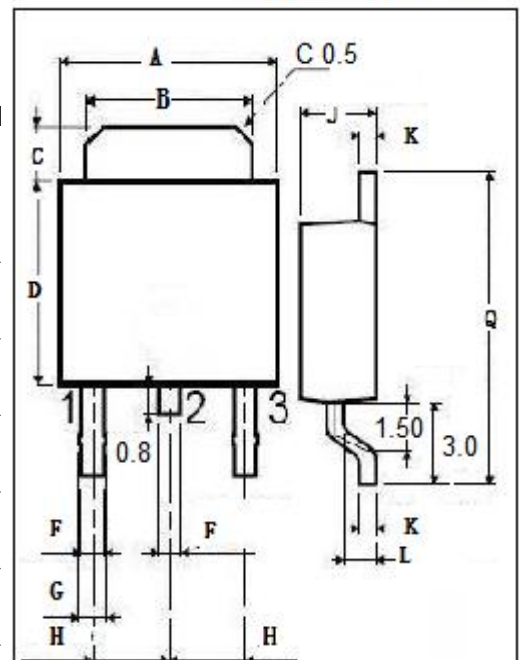
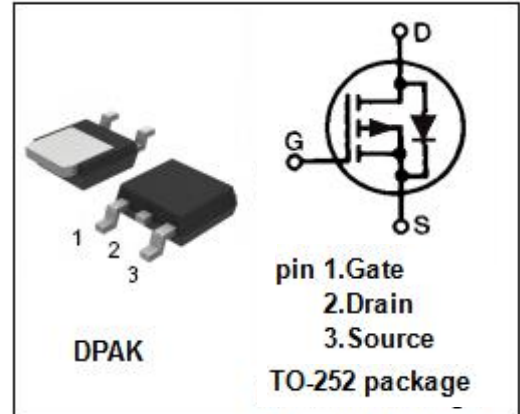
- Designed for use in switch mode power supplies and general purpose applications.

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DS}$  | Drain-Source Voltage                   | -40      | V          |
| $V_{GS}$  | Gate-Source Voltage-Continuous         | $\pm 20$ | V          |
| $I_D$     | Drain Current-Continuous               | -40      | A          |
| $I_{DM}$  | Drain Current-Single Pluse             | -115     | A          |
| $P_D$     | Total Dissipation @ $T_C = 25^\circ C$ | 62.5     | 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 | 2.4 | $^\circ C/W$ |



| DIM | mm   |      |
|-----|------|------|
|     | MIN  | MAX  |
| A   | 6.40 | 6.60 |
| B   | 5.20 | 5.40 |
| C   | 1.15 | 1.35 |
| D   | 5.70 | 6.10 |
| E   | 0.65 |      |
| F   | 0.75 |      |
| G   | 2.10 | 2.50 |
| H   | 2.10 | 2.40 |
| I   | 0.40 | 0.60 |
| J   | 0.90 | 1.10 |
| K   | 9.90 | 10.1 |

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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  | $V_{GS}=0$ ; $I_D=-0.25\text{mA}$                                                                            | -40  |           | V                |
| $V_{GS(th)}$  | Gate Threshold Voltage          | $V_{DS}=V_{GS}$ ; $I_D=-0.25\text{mA}$                                                                       | -1.7 | -3.0      | V                |
| $R_{DS(on)}$  | Drain-Source On-Resistance      | $V_{GS}=-10\text{V}$ ; $I_D=-20\text{A}$<br>$V_{GS}=-10\text{V}$ ; $I_D=-20\text{A}@T_J=125^{\circ}\text{C}$ |      | 15<br>23  | $\text{m}\Omega$ |
| $I_{GSS}$     | Gate-Body Leakage Current       | $V_{GS}=\pm 20\text{V}$ ; $V_{DS}=0$                                                                         |      | $\pm 100$ | nA               |
| $I_{DSS}$     | Zero Gate Voltage Drain Current | $V_{DS}=-40\text{V}$ ; $V_{GS}=0$<br>$V_{DS}=-40\text{V}$ ; $V_{GS}=0@T_J=55^{\circ}\text{C}$                |      | -1<br>-5  | $\mu\text{A}$    |
| $V_{SD}$      | Forward On-Voltage              | $I_S=-1\text{A}$ ; $V_{GS}=0$                                                                                |      | -1.0      | V                |

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