

### **INCHANGE SEMICONDUCTOR**

# isc N-Channel MOSFET Transistor

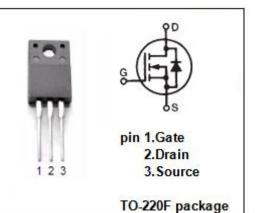
## **AOTF20N40**

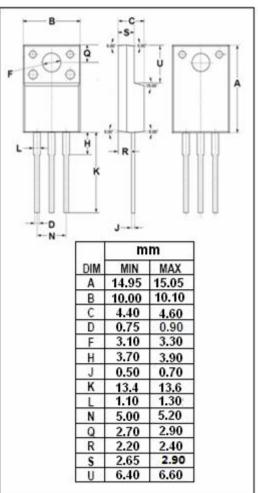
#### FEATURES

- Drain Current –I\_D=20A@ T\_C=25 $^\circ\!\mathrm{C}$
- Drain Source Voltage-
- : V<sub>DSS</sub>=400V(Min)
- Static Drain-Source On-Resistance : R<sub>DS(on)</sub> =0.25 Ω (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(Ta=25°C)

| SYMBOL           | PARAMETER                              | VALUE   | UNIT |  |  |  |  |
|------------------|--|---------|------|--|--|--|--|
| V <sub>DSS</sub> | Drain-Source Voltage                   | 400     | V    |  |  |  |  |
| V <sub>GS</sub>  | Gate-Source Voltage-Continuous         | ±30     | V    |  |  |  |  |
| ID               | Drain Current-Continuous               | 20      | A    |  |  |  |  |
| I <sub>DM</sub>  | Drain Current-Single Pluse 54          |         | A    |  |  |  |  |
| PD               | Total Dissipation @T <sub>c</sub> =25℃ | 50      | W    |  |  |  |  |
| TJ               | Max. Operating Junction Temperature    | -55~150 | °C   |  |  |  |  |
| T <sub>stg</sub> | Storage Temperature                    | -55~150 | °C   |  |  |  |  |
|                  |  |         |      |  |  |  |  |

#### THERMAL CHARACTERISTICS

| SYMBOL              | PARAMETER                            | MAX | UNIT |
|---------------------|--------------------------------------|-----|------|
| R <sub>th j-c</sub> | Thermal Resistance, Junction to Case | 2.5 | °C/W |



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### **ELECTRICAL CHARACTERISTICS**

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

| SYMBOL              | PARAMETER                       | CONDITIONS  | MIN | МАХ     | UNIT |
|---------------------|---------------------------------|---|-----|---------|------|
| V(BR)DSS            | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA  | 400 |         | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage          | V <sub>DS</sub> = 5V; I <sub>D</sub> = 0.25mA   | 3.0 | 4.3     | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> =10A  |     | 0.25    | Ω    |
| lgss                | Gate-Body Leakage Current       | V <sub>GS</sub> = ±30V;V <sub>DS</sub> =0   |     | ±100    | nA   |
| I <sub>DSS</sub>    | Zero Gate Voltage Drain Current | V <sub>DS</sub> =400V; V <sub>GS</sub> = 0<br>V <sub>DS</sub> =320V; V <sub>GS</sub> = 0@T <sub>J</sub> =125℃ |     | 1<br>10 | μA   |
| V <sub>SD</sub>     | Forward On-Voltage              | I <sub>S</sub> = 1A; V <sub>GS</sub> = 0  |     | 1       | V    |



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