

isc N-Channel MOSFET Transistor

AOT42S60

• FEATURES

- Drain Current $-I_D = 37A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DS} = 600V (Min)$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 109m\Omega (Max)$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

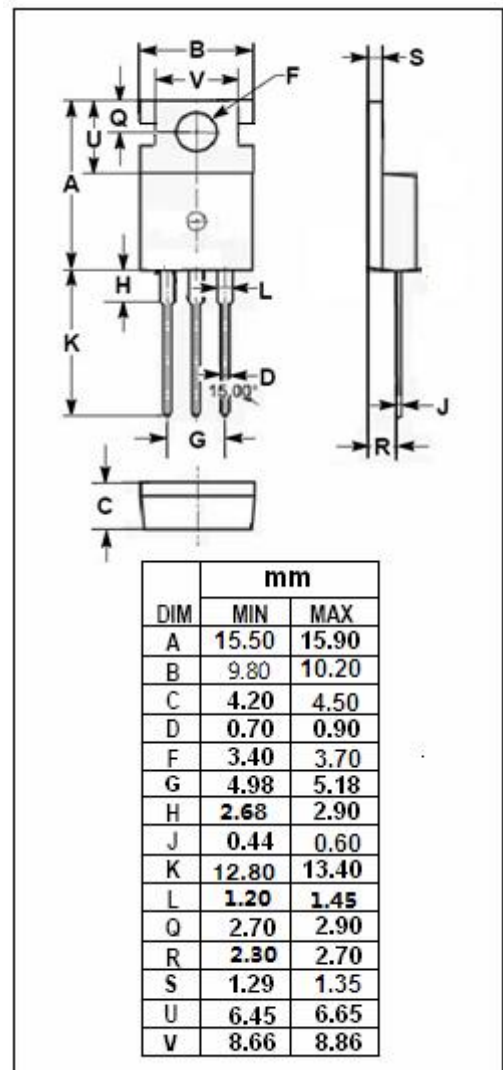
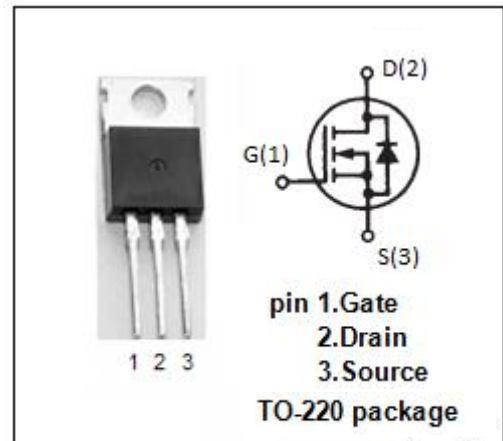
- Be suitable for synchronous rectification for server and general purpose applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DS} | Drain-Source Voltage | 600 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous | 37 | A |
| I_{DM} | Drain Current-Single Pulsed | 166 | A |
| P_D | Total Dissipation @ $T_C = 25^\circ C$ | 417 | W |
| T_j | Max. Operating Junction Temperature | -55~150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|----------------|------------------------------------|-----|--------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 0.3 | $^\circ C/W$ |



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ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|--------------|--------------------------------|---|-----|------|------------|-----------|
| BV_{DSS} | Drain-Source Breakdown Voltage | $V_{GS}=0V$; $I_D = 250\ \mu A$ | 600 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}= 5V$; $I_D = 250\ \mu A$ | 2.5 | | 3.8 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}= 10V$; $I_D= 21A$ $V_{GS}= 10V$; $I_D= 21A$; $T_J= 150^{\circ}\text{C}$ | | | 109 310 | $m\Omega$ |
| I_{GSS} | Gate-Source Leakage Current | $V_{GS}= \pm 30V$; $V_{DS}= 0V$ | | | ± 100 | nA |
| I_{DSS} | Drain-Source Leakage Current | $V_{DS}= 600V$; $V_{GS}= 0V$ $V_{DS}= 480V$; $V_{GS}= 0V$; $T_J= 150^{\circ}\text{C}$ | | 10 | 1 | μA |
| V_{SD} | Diode forward voltage | $I_S= 21A$; $V_{GS}= 0V$ | | 0.84 | | V |

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