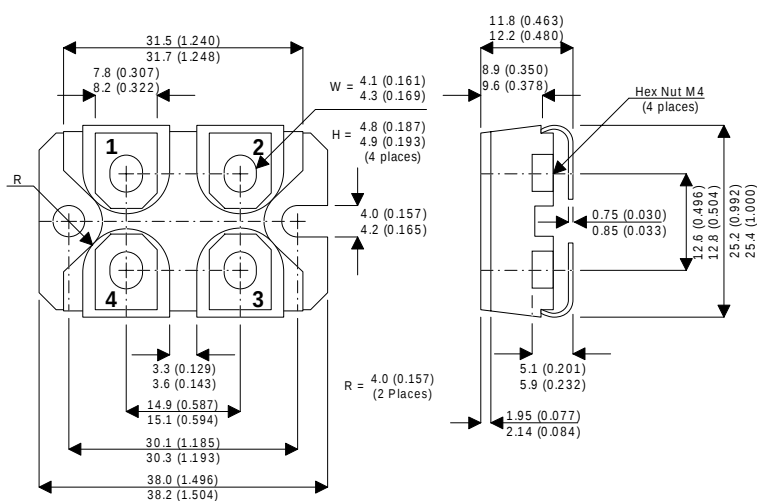


## MECHANICAL DATA

Dimensions in mm (inches)

## N-CHANNEL POWER MOSFET

## POWER MOSFETS FOR AUDIO APPLICATIONS



### SOT227

Pin 1 – Drain  
Pin 2 – Source  
Pin 3 – Gate  
Pin 4 – Drain

## FEATURES

- HIGH SPEED SWITCHING
- N-CHANNEL POWER MOSFET
- SEMEFAB DESIGNED AND DIFFUSED
- HIGH VOLTAGE (160V & 200V)
- HIGH ENERGY RATING
- ENHANCEMENT MODE
- INTEGRAL PROTECTION DIODE
- P-CHANNEL ALSO AVAILABLE

## ABSOLUTE MAXIMUM RATINGS

( $T_{case} = 25^{\circ}C$  unless otherwise stated)

|                 |                                                    | <b>BUZ900X4S</b>        | <b>BUZ901X4S</b> |
|-----------------|----------------------------------------------------|-------------------------|------------------|
| $V_{DSX}$       | Drain – Source Voltage                             | 160V                    | 200V             |
| $V_{GS}$        | Gate – Source Voltage                              | $\pm 14V$               |                  |
| $I_D$           | Continuous Drain Current                           | 32A                     |                  |
| $I_{D(PK)}$     | Body Drain Diode                                   | 32A                     |                  |
| $P_D$           | Total Power Dissipation @ $T_{case} = 25^{\circ}C$ | 500W                    |                  |
| $T_{stg}$       | Storage Temperature Range                          | $-55$ to $150^{\circ}C$ |                  |
| $T_j$           | Maximum Operating Junction Temperature             | $150^{\circ}C$          |                  |
| $R_{\theta JC}$ | Thermal Resistance Junction – Case                 | $0.3^{\circ}C/W$        |                  |

### ELECTRICAL RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

|                        | Characteristic                    | Test Conditions        |                         | Min. | Typ. | Max. | Unit |
|------------------------|-----------------------------------|------------------------|-------------------------|------|------|------|------|
| BV <sub>DSX</sub>      | Drain – Source Breakdown Voltage  | V <sub>GS</sub> = -10V | BUZ900X4S               | 160  |      |      | V    |
|                        |                                   | I <sub>D</sub> = 10mA  | BUZ901X4S               | 200  |      |      |      |
| BV <sub>GSS</sub>      | Gate – Source Breakdown Voltage   | V <sub>DS</sub> = 0    | I <sub>G</sub> = ±100μA | ±14  |      |      | V    |
| V <sub>GS(OFF)</sub>   | Gate – Source Cut-Off Voltage     | V <sub>DS</sub> = 10V  | I <sub>D</sub> = 100mA  | 0.1  |      | 1.5  | V    |
| V <sub>DS(SAT)</sub> * | Drain – Source Saturation Voltage | V <sub>GD</sub> = 0    | I <sub>D</sub> = 32A    |      |      | 12   | V    |
| I <sub>DSX</sub>       | Drain – Source Cut-Off Current    | V <sub>GS</sub> = -10V |                         |      |      | 10   | mA   |
|                        |                                   | V <sub>DS</sub> = 160V | BUZ900X4S               |      |      | 10   |      |
|                        |                                   | V <sub>DS</sub> = 200V | BUZ901X4S               |      |      | 10   | mA   |
| y <sub>fs</sub> *      | Forward Transfer Admittance       | V <sub>DS</sub> = 10V  | I <sub>D</sub> = 5A     | 2    |      | 6    | S    |
| C <sub>iss</sub>       | Input Capacitance                 | V <sub>DS</sub> = 10V  | f = 1MHz                |      | TBE  |      | pF   |
| C <sub>oss</sub>       | Output Capacitance                |                        |                         |      | TBE  |      |      |
| C <sub>rss</sub>       | Reverse Transfer Capacitance      |                        |                         |      | TBE  |      |      |
| t <sub>on</sub>        | Turn-on Time                      | V <sub>DS</sub> = 20V  | I <sub>D</sub> = 7A     |      | TBE  |      | nS   |
| t <sub>off</sub>       | Turn-off Time                     |                        |                         |      | TBE  |      |      |

\* Pulse Test: Pulse Width = 300μS , Duty Cycle ≤ 2%

