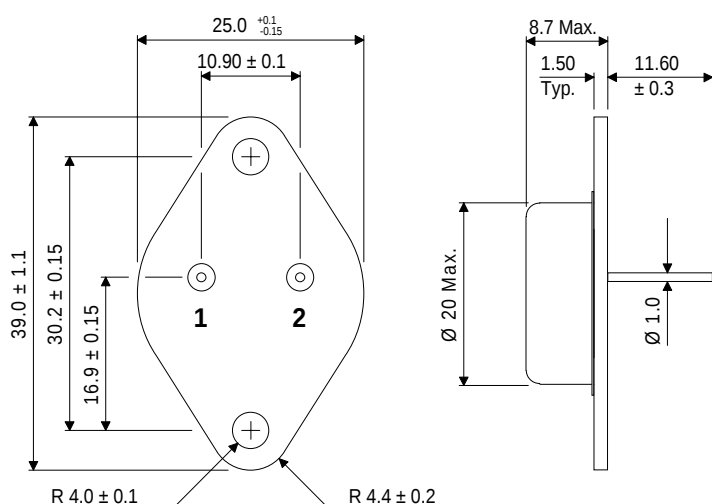


## MECHANICAL DATA

Dimensions in mm

## P-CHANNEL POWER MOSFET

### POWER MOSFETS FOR AUDIO APPLICATIONS



### TO-3

Pin 1 – Gate

Pin 2 – Drain

Case – Source

### FEATURES

- HIGH SPEED SWITCHING
- P-CHANNEL POWER MOSFET
- SEMEFAB DESIGNED AND DIFFUSED
- HIGH VOLTAGE (160V & 200V)
- HIGH ENERGY RATING
- ENHANCEMENT MODE
- INTEGRAL PROTECTION DIODE
- N-CHANNEL ALSO AVAILABLE AS BUZ900 & BUZ901

## ABSOLUTE MAXIMUM RATINGS

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

|                 |                                                    | <b>BUZ905</b>         | <b>BUZ906</b> |
|-----------------|----------------------------------------------------|-----------------------|---------------|
| $V_{DSX}$       | Drain – Source Voltage                             | -160V                 | -200V         |
| $V_{GSS}$       | Gate – Source Voltage                              | $\pm 14V$             |               |
| $I_D$           | Continuous Drain Current                           | -8A                   |               |
| $I_{D(PK)}$     | Body Drain Diode                                   | -8A                   |               |
| $P_D$           | Total Power Dissipation @ $T_{case} = 25^{\circ}C$ | 125W                  |               |
| $T_{stg}$       | Storage Temperature Range                          | -55 to $150^{\circ}C$ |               |
| $T_j$           | Maximum Operating Junction Temperature             | $150^{\circ}C$        |               |
| $R_{\theta JC}$ | Thermal Resistance Junction – Case                 | $1.0^{\circ}C/W$      |               |

## STATIC CHARACTERISTICS (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<br>I <sub>D</sub> = -10mA | BUZ905                            | -160  |      |      | V    |
|                                                         |                                                 | BUZ906                            | -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           | -0.15 |      | -1.5 | V    |
| V <sub>DS(SAT)*</sub> Drain – Source Saturation Voltage | V <sub>GD</sub> = 0                             | I <sub>D</sub> = -8A              |       |      | -12  | V    |
| I <sub>DSX</sub> Drain – Source Cut-Off Current         | V <sub>GS</sub> = -10V                          | V <sub>DS</sub> = -160V<br>BUZ905 |       |      | -10  | mA   |
|                                                         |                                                 | V <sub>DS</sub> = -200V<br>BUZ906 |       |      | -10  |      |
| yfs* Forward Transfer Admittance                        | V <sub>DS</sub> = -10V                          | I <sub>D</sub> = -3A              | 0.7   |      | 2    | S    |

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

| Characteristic                                | Test Conditions                                | Min. | Typ. | Max. | Unit |
|-----------------------------------------------|------------------------------------------------|------|------|------|------|
| C <sub>iss</sub> Input Capacitance            | V <sub>DS</sub> = -10V<br>f = 1MHz             |      | 734  |      | pF   |
| C <sub>oss</sub> Output Capacitance           |                                                |      | 300  |      |      |
| C <sub>rss</sub> Reverse Transfer Capacitance |                                                |      | 26   |      |      |
| t <sub>on</sub> Turn-on Time                  | V <sub>DS</sub> = -20V<br>I <sub>D</sub> = -5A |      | 120  |      | ns   |
| t <sub>off</sub> Turn-off Time                |                                                |      | 60   |      |      |

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

