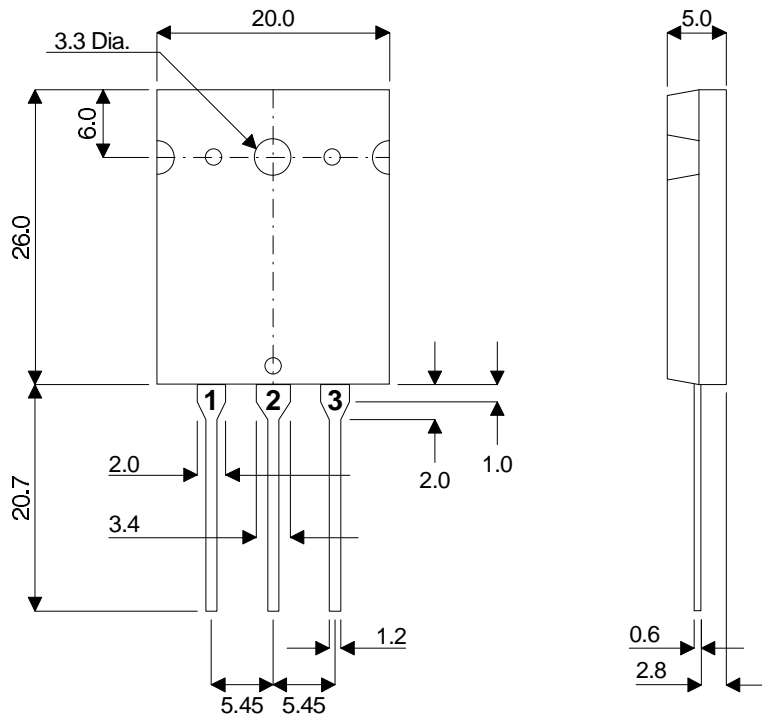


**MECHANICAL DATA**  
Dimensions in mm



**TO-3PBL**

Pin 1 – Gate

Pin 2 – Source  
Case is Source

Pin 3 – Drain

**N-CHANNEL**  
**POWER MOSFET**

**POWER MOSFETS FOR**  
**AUDIO APPLICATIONS**

**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 AS BUZ905DP & BUZ906DP
- DOUBLE DIE PACKAGE FOR MAXIMUM POWER AND HEATSINK SPACE

**ABSOLUTE MAXIMUM RATINGS**

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

|                 |  | <b>BUZ900DP</b>         | <b>BUZ901DP</b> |
|-----------------|--|-------------------------|-----------------|
| $V_{DSX}$       | Drain – Source Voltage                             | 160V                    | 200V            |
| $V_{GSS}$       | Gate – Source Voltage                              | $\pm 14V$               |                 |
| $I_D$           | Continuous Drain Current                           | 16A                     |                 |
| $I_{D(PK)}$     | Body Drain Diode                                   | 16A                     |                 |
| $P_D$           | Total Power Dissipation @ $T_{case} = 25^{\circ}C$ | 250W                    |                 |
| $T_{stg}$       | Storage Temperature Range                          | $-55$ to $150^{\circ}C$ |                 |
| $T_j$           | Maximum Operating Junction Temperature             | $150^{\circ}C$          |                 |
| $R_{\theta JC}$ | Thermal Resistance Junction – Case                 | $0.5^{\circ}C/W$        |                 |

**STATIC CHARACTERISTICS** ( $T_{case} = 25^{\circ}\text{C}$  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 | BUZ900DP                           | 160  |      |      | V    |
|                       |                                   |   | BUZ901DP                           | 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> = 16A               |      |      | 12   | V    |
| I <sub>DSX</sub>      | Drain – Source Cut-Off Current    | V <sub>GS</sub> = -10V                          | V <sub>DS</sub> = 160V<br>BUZ900DP |      |      | 10   | mA   |
|                       |                                   |   | V <sub>DS</sub> = 200V<br>BUZ901DP |      |      | 10   |      |
| yfs*                  | Forward Transfer Admittance       | V <sub>DS</sub> = 10V                           | I <sub>D</sub> = 3A                | 1.4  |      | 4    | S    |

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

| Characteristic   |                              | Test Conditions                              |  | Min. | Typ. | Max. | Unit |
|------------------|------------------------------|--|--|------|------|------|------|
| C <sub>iss</sub> | Input Capacitance            | V <sub>DS</sub> = 10V<br>f = 1MHz            |  |      | 950  |      | pF   |
| C <sub>oss</sub> | Output Capacitance           |  |  |      | 550  |      |      |
| C <sub>rss</sub> | Reverse Transfer Capacitance |  |  |      |      | 18   |      |
| t <sub>on</sub>  | Turn-on Time                 | V <sub>DS</sub> = 20V<br>I <sub>D</sub> = 7A |  |      | 160  |      | ns   |
| t <sub>off</sub> | Turn-off Time                |  |  |      | 80   |      |      |

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

