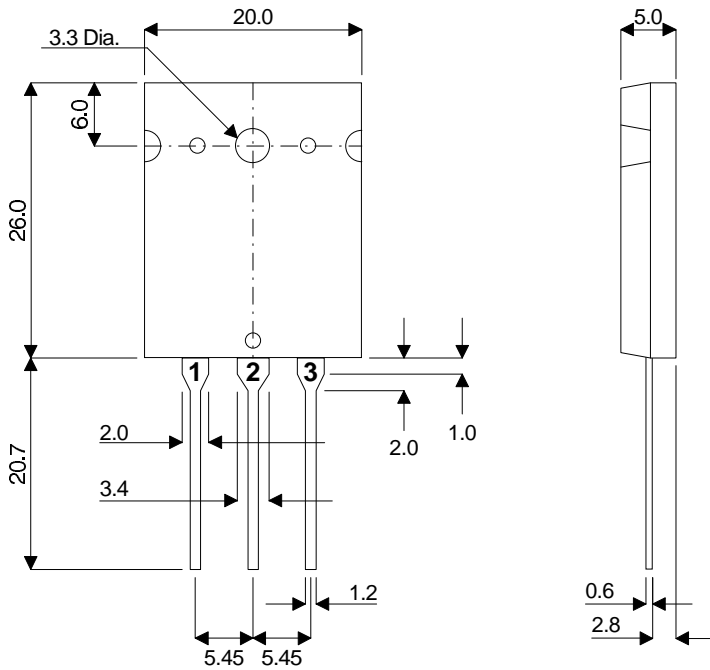


**MECHANICAL DATA**  
Dimensions in mm

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

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



**TO-3PBL**

Pin 1 – Gate

Pin 2 – Source  
Case – Source

Pin 3 – Drain

**FEATURES**

- HIGH SPEED SWITCHING
- SEMEFAB DESIGNED AND DIFFUSED
- HIGH VOLTAGE (220V & 250V)
- HIGH ENERGY RATING
- ENHANCEMENT MODE
- INTEGRAL PROTECTION DIODES
- COMPLIMENTARY P-CHANNEL BUZ907DP & BUZ908DP

**ABSOLUTE MAXIMUM RATINGS**

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

|                 |  | <b>BUZ902DP</b>         | <b>BUZ903DP</b> |
|-----------------|--|-------------------------|-----------------|
| $V_{DSX}$       | Drain – Source Voltage                             | 220V                    | 250V            |
| $V_{GSS}$       | 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** ( $T_{case} = 25^{\circ}C$  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 | BUZ902DP                           | 220  |      |      | V    |
|  |   | BUZ903DP                           | 250  |      |      | V    |
| 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             | 0.10 |      | 1.5  | V    |
| V <sub>DS(SAT)</sub> * Drain – Source Saturation Voltage | V <sub>GD</sub> = 0                             | I <sub>D</sub> = 16A               |      |      | 12   | V    |
| R <sub>DS(on)</sub> * Static – Source Resistance         | V <sub>GS</sub> = 10                            | I <sub>D</sub> = 16A               |      |      | 0.75 | Ω    |
| I <sub>DSX</sub> Drain – Source Cut-Off Current          | V <sub>GS</sub> = -10V                          | V <sub>DS</sub> = 220V<br>BUZ902DP |      |      | 10   | mA   |
|  |   | V <sub>DS</sub> = 250V<br>BUZ903DP |      |      | 10   | mA   |
| y <sub>fs</sub> * Forward Transfer Admittance            | V <sub>DS</sub> = 10V                           | I <sub>D</sub> = 3A                | 1.4  |      | 4    | S    |

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

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

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

