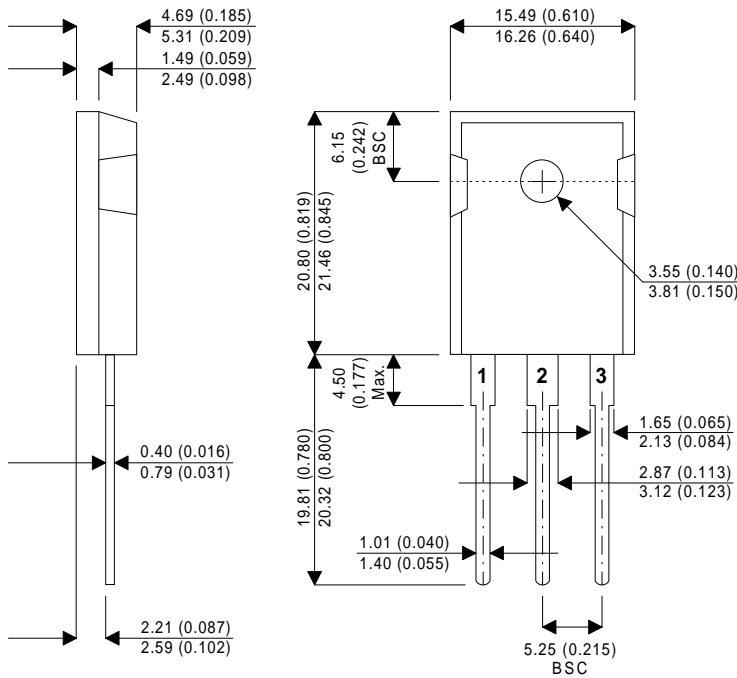


**MECHANICAL DATA**

Dimensions in mm (inches)



**TO-247**

Pin 1 – Gate

Pin 2 – 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 BUZ905P & BUZ906P

**ABSOLUTE MAXIMUM RATINGS**

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

		<b>BUZ900P</b>	<b>BUZ901P</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	$1.0^{\circ}C/W$	

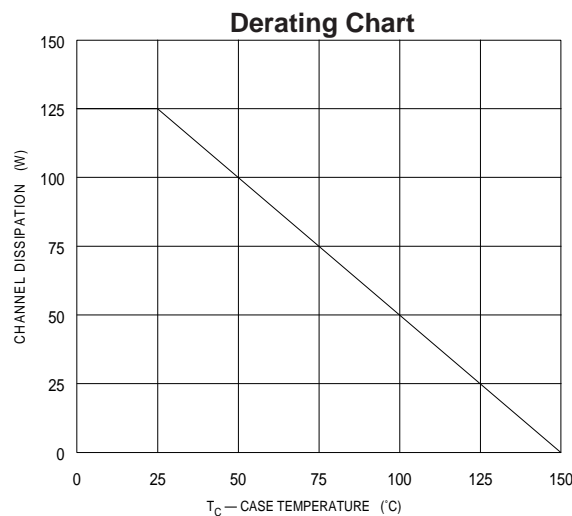
**STATIC CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

Characteristic		Test Conditions		Min.	Typ.	Max.	Unit
BV <sub>DSX</sub>	Drain – Source Breakdown Voltage	V <sub>GS</sub> = -10V I <sub>D</sub> = 10mA	BUZ900P	160			V
			BUZ901P	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 BUZ900P			10	mA
			V <sub>DS</sub> = 200V BUZ901P			10	
yfs*	Forward Transfer Admittance	V <sub>DS</sub> = 10V	I <sub>D</sub> = 3A	0.7		2	S

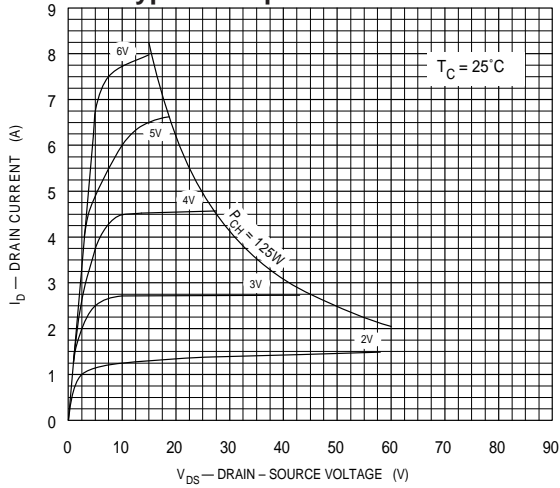
**DYNAMIC CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

Characteristic		Test Conditions		Min.	Typ.	Max.	Unit
C <sub>iSS</sub>	Input Capacitance	V <sub>DS</sub> = 10V f = 1MHz			500		pF
C <sub>oss</sub>	Output Capacitance				300		
C <sub>rSS</sub>	Reverse Transfer Capacitance				10		
t <sub>on</sub>	Turn-on Time	V <sub>DS</sub> = 20V			100		ns
t <sub>off</sub>	Turn-off Time	I <sub>D</sub> = 5A			50		

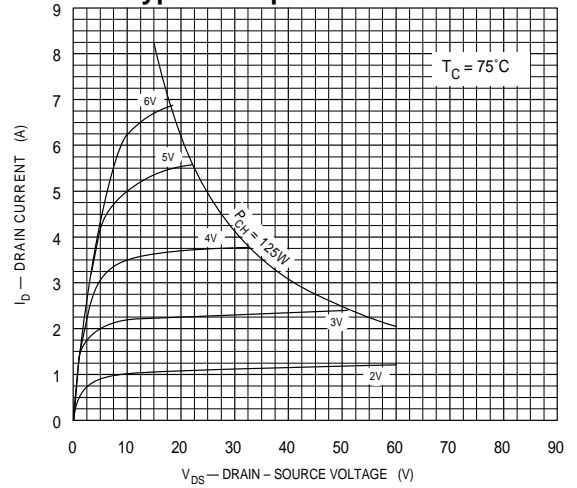
\* Pulse Test: Pulse Width = 300µs , Duty Cycle ≤ 2%.



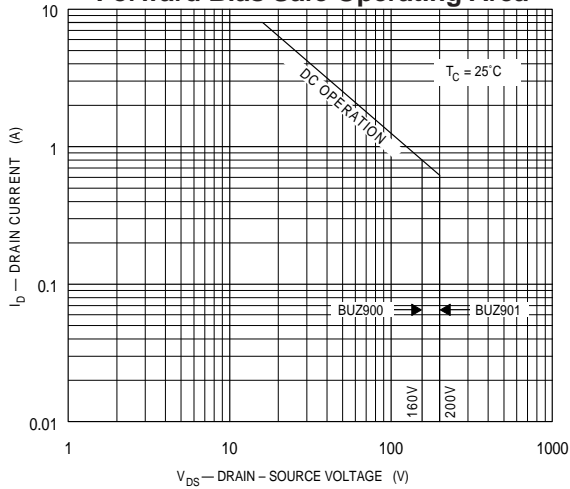
**Typical Output Characteristics**



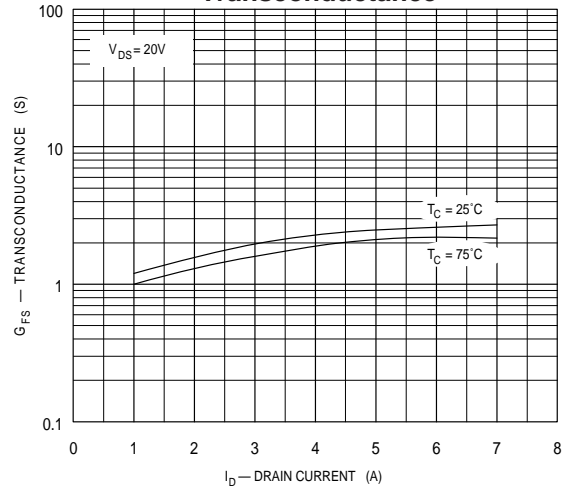
**Typical Output Characteristics**



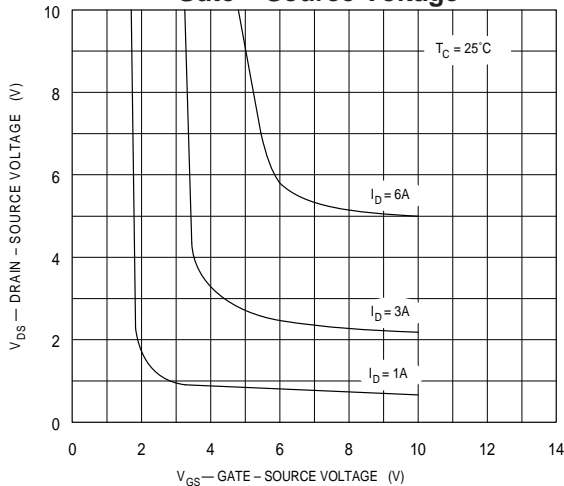
**Forward Bias Safe Operating Area**



**Transconductance**



**Drain - Source Voltage vs Gate - Source Voltage**



**Typical Transfer Characteristics**

