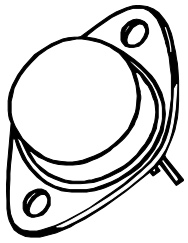
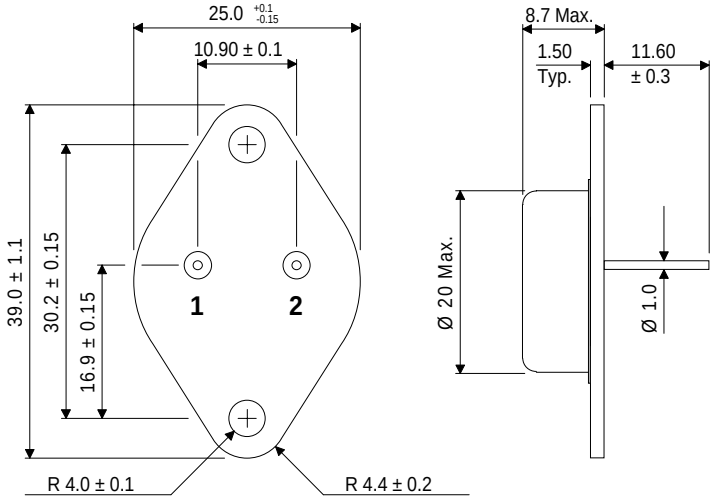
MAGNA TEC



BUZ900D
BUZ901D

MECHANICAL DATA
Dimensions in mm

N–CHANNEL POWER MOSFET



TO–3

Pin 1 – Gate Pin 2 – Drain Case – Source

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 BUZ905D & BUZ906D**
- **DOUBLE DIE PACKAGE FOR MAXIMUM POWER AND HEATSINK SPACE**

ABSOLUTE MAXIMUM RATINGS

(T_{case} = 25°C unless otherwise stated)			BUZ900D	BUZ901D
V_{DSX}	Drain – Source Voltage		160V	200V
V_{GSS}	Gate – Source Voltage		±14V	
I_D	Continuous Drain Current		16A	
$I_{D(PK)}$	Body Drain Diode		16A	
P_D	Total Power Dissipation	@ T_{case} = 25°C	250W	
T_{stg}	Storage Temperature Range		–55 to 150°C	
T_j	Maximum Operating Junction Temperature		150°C	
$R_{\theta JC}$	Thermal Resistance Junction – Case		0.5°C/W	

MAGNA TEC

BUZ900D
BUZ901D

STATIC CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

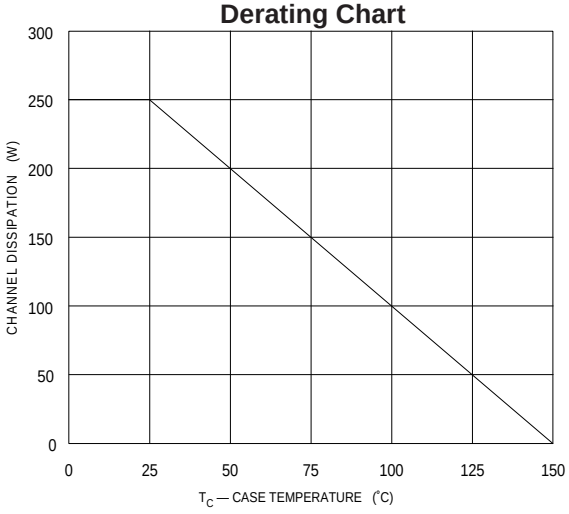
	Characteristic	Test Conditions		Min.	Typ.	Max.	Unit
BV_{DSX}	Drain – Source Breakdown Voltage	V_{GS} = –10V I_D = 10mA	BUZ900D	160			V
			BUZ901D	200			
BV_{GSS}	Gate – Source Breakdown Voltage	V_{DS} = 0	I_G = ±100µA	±14			V
$V_{GS(OFF)}$	Gate – Source Cut–Off Voltage	V_{DS} = 10V	I_D = 100mA	0.1		1.5	V
$V_{DS(SAT)}$*	Drain – Source Saturation Voltage	V_{GD} = 0	I_D = 16A			12	V
I_{DSX}	Drain – Source Cut–Off Current	V_{GS} = –10V	V_{DS} = 160V BUZ900D			10	mA
			V_{DS} = 200V BUZ901D			10	
yfs*	Forward Transfer Admittance	V_{DS} = 10V	I_D = 3A	1.4		4	S

DYNAMIC CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
C_{iss}	Input Capacitance	V_{DS} = 10V f = 1MHz		950		pF
C_{oss}	Output Capacitance			550		
C_{rss}	Reverse Transfer Capacitance			18		
t_{on}	Turn–on Time	V_{DS} = 20V I_D = 7A		160		ns
t_{off}	Turn-off Time			80		

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

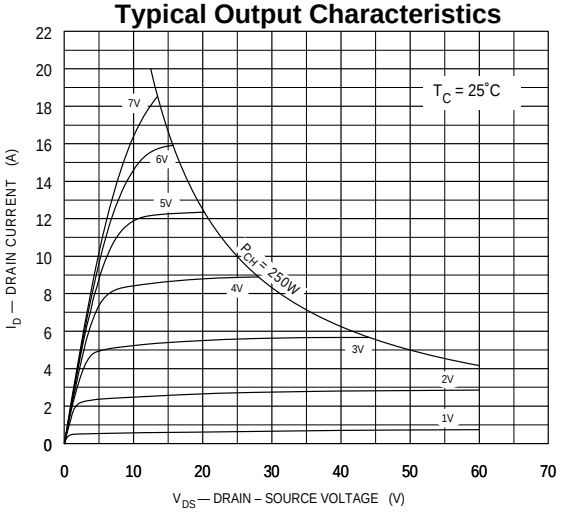
Derating Chart



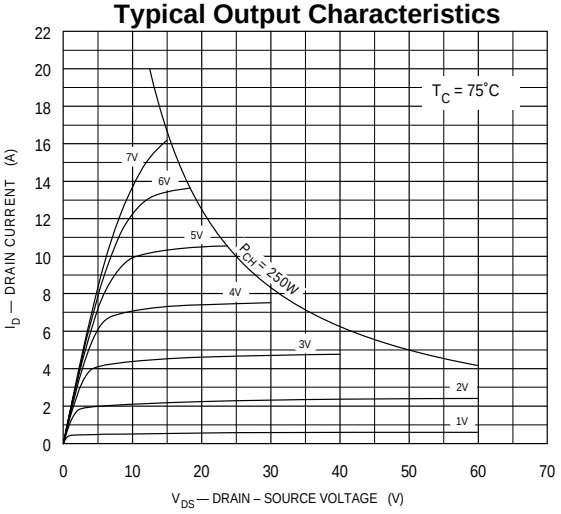
MAGNA TEC

BUZ900D
BUZ901D

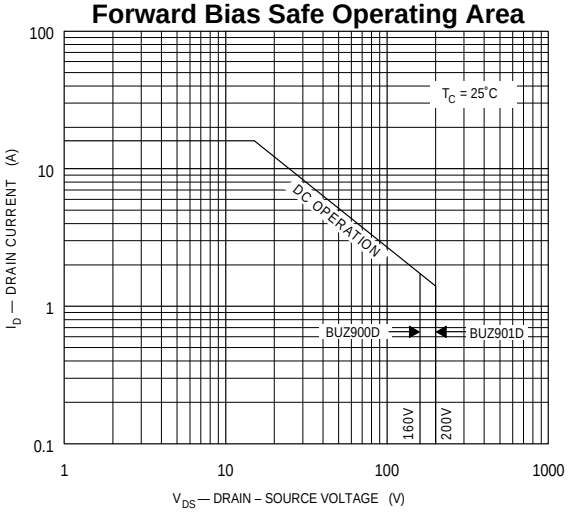
Typical Output Characteristics



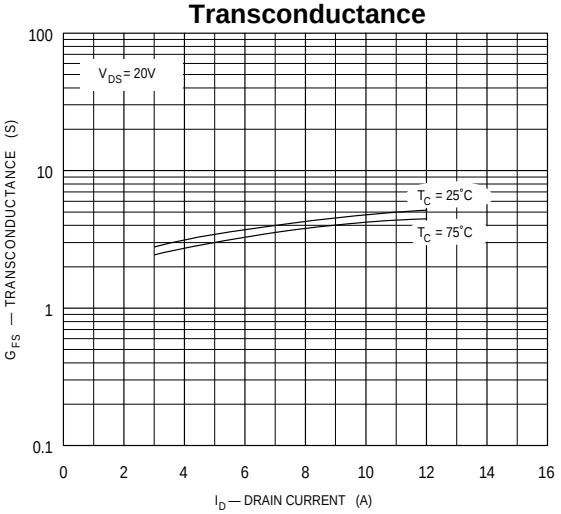
Typical Output Characteristics



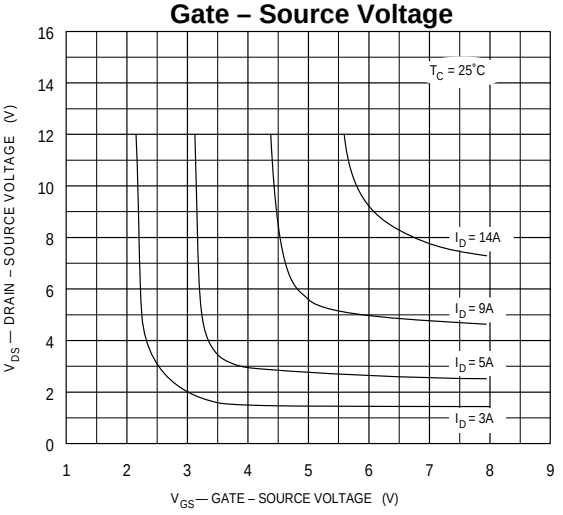
Forward Bias Safe Operating Area



Transconductance



Drain – Source Voltage vs Gate – Source Voltage



Typical Transfer Characteristics