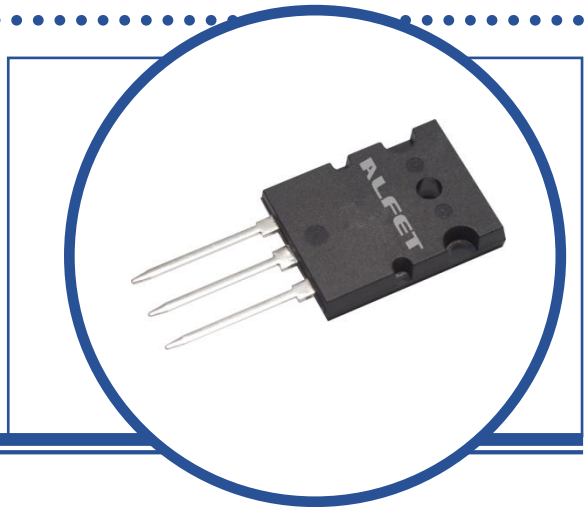


N-CHANNEL LATERAL POWER MOSFET FOR AUDIO

ALF16N16W/ALF16N20W

- Designed specifically for linear audio amplifier applications
- High-speed for high bandwidth amplifiers
- High voltage rating – 160V & 200V
- TO-264 plastic package
- Enhanced oscillation suppression in multi-device applications
- Complimentary P-channel available – ALF16P16W/ALF16P20W



ABSOLUTE MAXIMUM RATINGS

($T_C = 25^\circ\text{C}$ unless otherwise stated)

		ALF16N16W	ALF16N20W
V_{DSS}	Drain – Source Voltage	160V	200V
V_{GSS}	Gate – Source Voltage	$\pm 20\text{V}$	
I_D	Continuous Drain Current	16A	
I_{DR}	Body Drain Diode Current	16A	
P_D	Allowable Power Dissipation $T_{case} = 25^\circ\text{C}$	250W	
T_{ch}	Channel Temperature	150°C	
T_{stg}	Storage Temperature Range	-55 to +150°C	

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			0.5	$^\circ\text{C/W}$

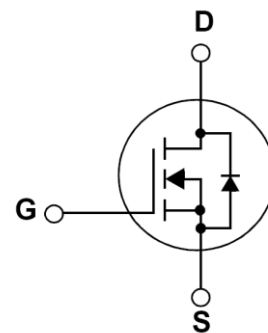
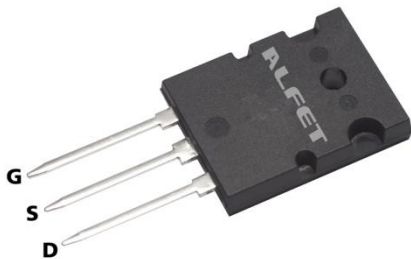
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
BV_{DSX}	Drain-Source Breakdown Voltage	$V_{GS} = -10\text{V}$	ALF16N16W	160		V
		$I_D = 10\text{mA}$	ALF16N20W	200		
I_{GSS}	Gate-Source Leakage Current	$V_{DS} = 0$ $V_{GS} = \pm 20\text{V}$			100	μA
$V_{GS(off)}$	Gate-Source Cut-off Voltage	$V_{DS} = 10\text{V}$ $I_D = 100\text{mA}$	0.1		1.5	V
$V_{DS(sat)*}$	Drain-Source Saturation Voltage	$V_{GD} = 0$ $I_D = 16\text{A}$			12	V
$ y_{fs} ^*$	Forward Transfer Admittance	$V_{DS} = 10\text{V}$ $I_{DS} = 3\text{A}$	1.4		4	S(Ω)
I_{DSX}	Drain-Source Cut-Off Current	$V_{GS} = -10\text{V}$	$V_{DS} = 160\text{V}$		10	mA
			$V_{DS} = 200\text{V}$		10	

* Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2\%$

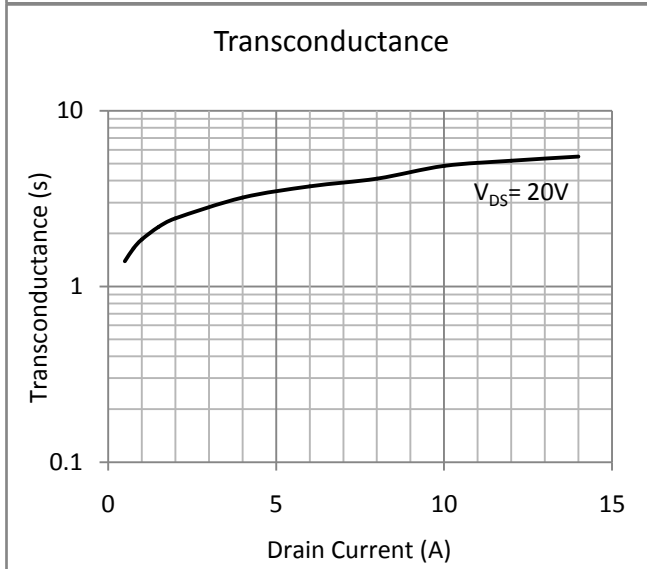
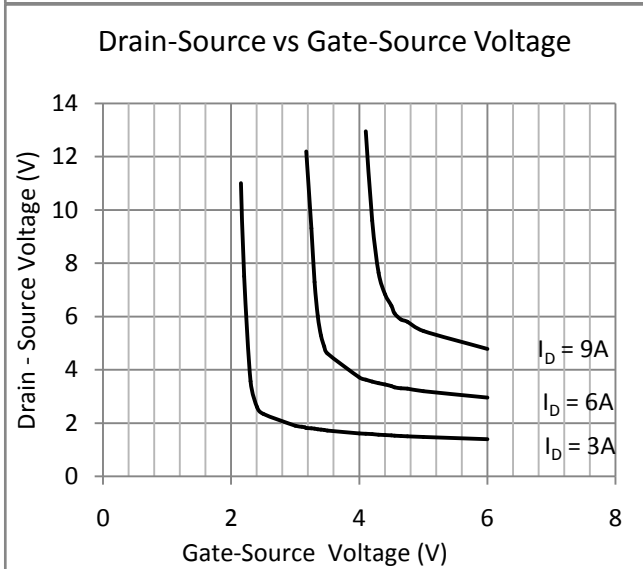
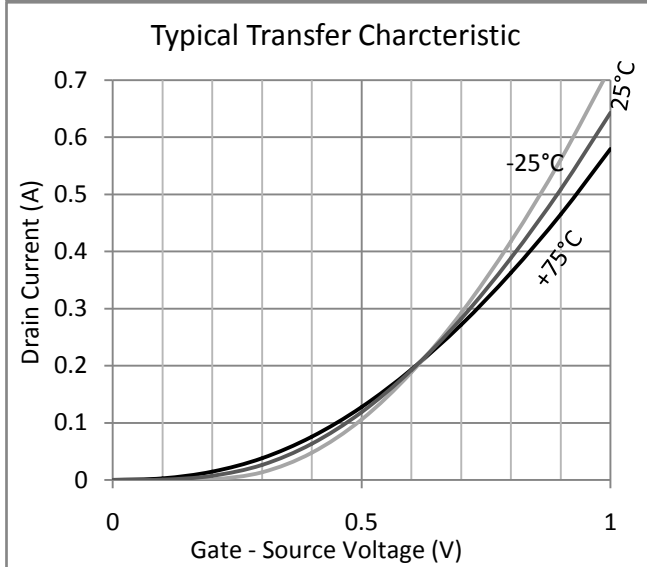
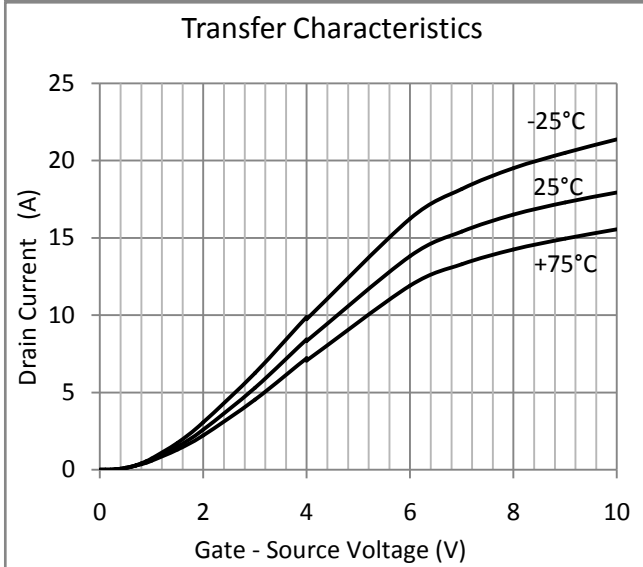
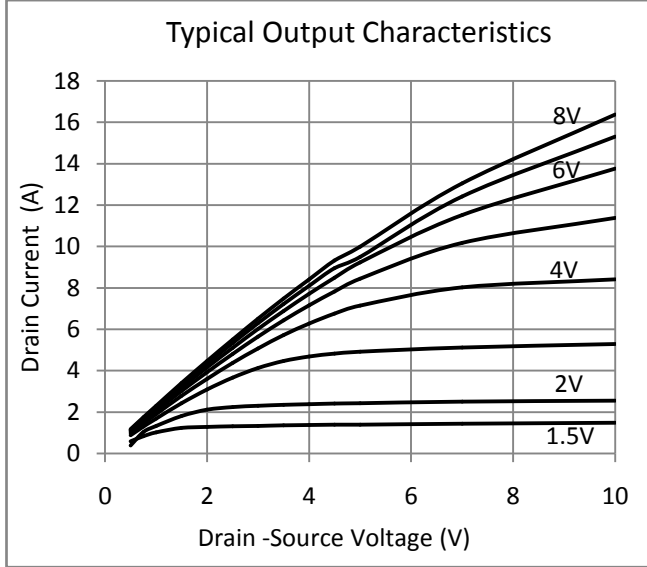
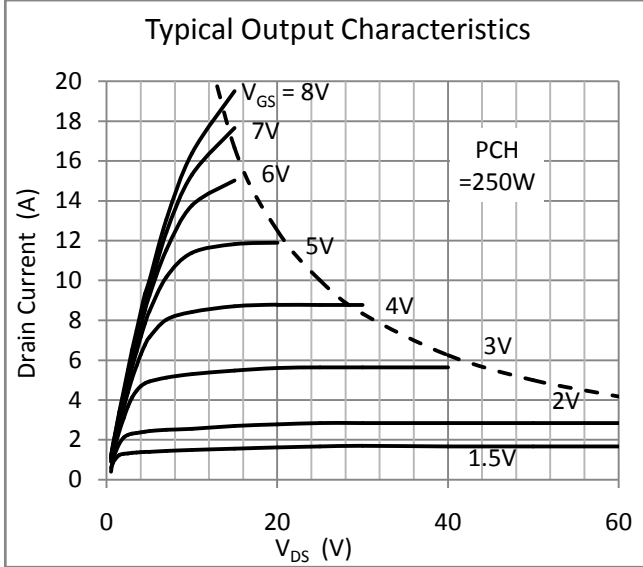
DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{GS} = 0$		900		pF
C_{oss}	Output Capacitance	$V_{DS} = 10\text{V}$		500		
C_{rss}	Reverse Transfer Capacitance	$f = 1.0\text{MHz}$		16		
t_{on}	Turn-On Time	$V_{DS} = 20\text{V}$		155		ns
t_{off}	Turn-Off Time	$I_D = 7\text{A}$		90		

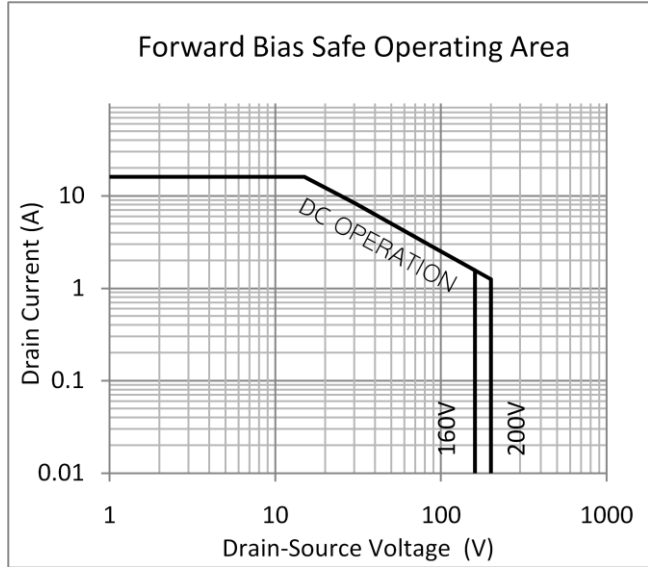
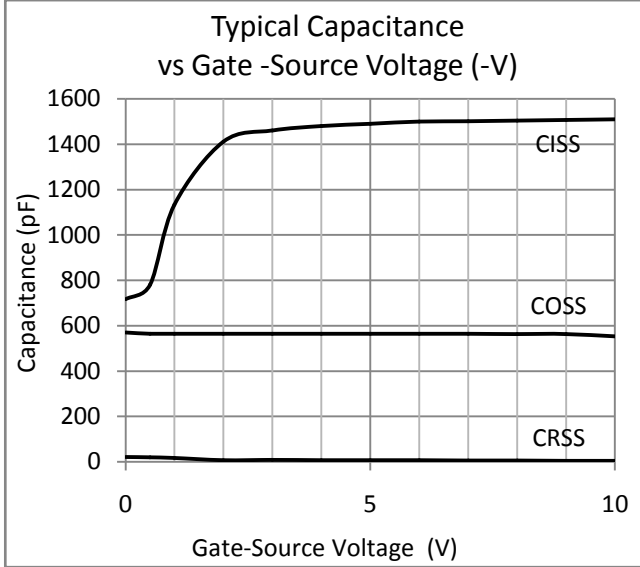


Please Note: These lateral mosfets do not include a G-S protection network and care must therefore be taken with static handling precautions and the appropriate protection in the amplifier circuit. Please refer to the application notes for more information.

GENERAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

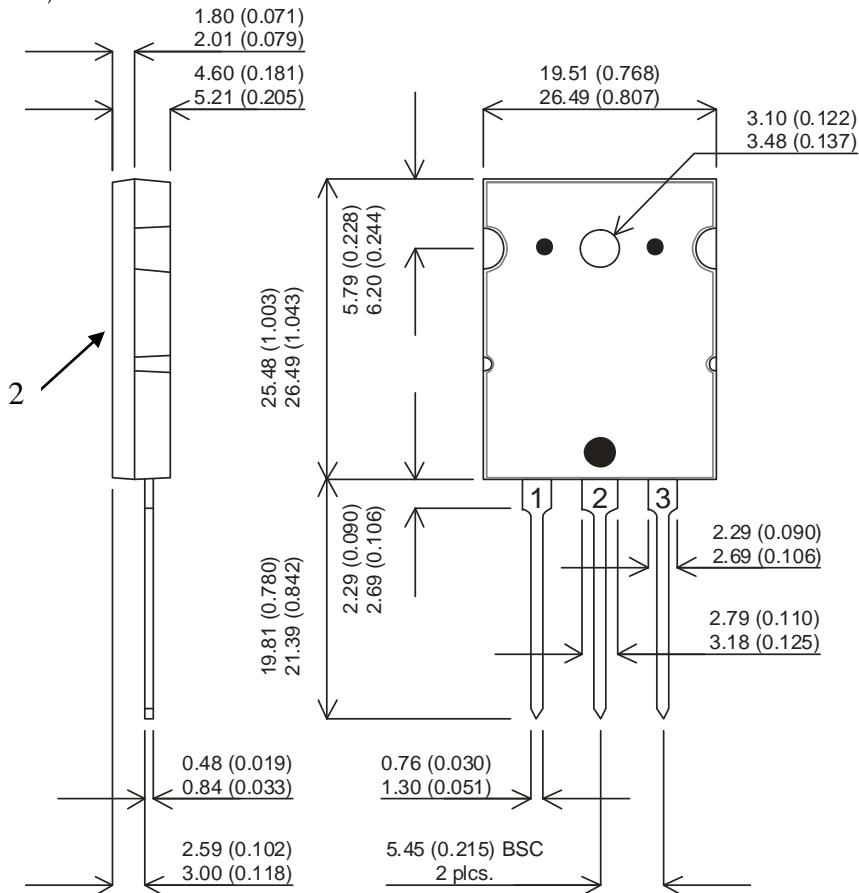


GENERAL CHARACTERISTICS CONTINUED ($T_c = 25^\circ\text{C}$ unless otherwise stated)



MECHANICAL DATA

Dimensions in mm (Inches)



Pin1 – Gate Pin2 – Source Pin3 - Drain
TO-264