LM4871 **Boomer** Audio Power Amplifier Series

1.1W Audio Power Amplifier with Shutdown Mode

● Features

THD at 1 kHz at 1W continuous

average output power into 8 Ohm 0.5%

Output power at 10% THD+N at 1 kHz into 8 Ohm 1.5W

Shutdown Current 0.6 μA

● General Description

The LM4871 is a bridge-connected audio power amplifier capable

of delivering typically 1.1W of continuous average power to an 8Ohm load with 0.5% (THD) from a 5V power supply.

Boomer audio power amplifiers were designed specifically to provide high quality output power with a minimal amount of external components. Since the LM4871 does not require output coupling capacitors, bootstrap capacitors, or snubber networks, it is optionally suited for low-power portable systems.

The LM4871 features an externally controlled, low-power consumption shutdown mode, as well as an internal thermal shutdown protection mechanism.

The unity-gain stable LM4871 can be configured by external gain-setting resistors.

● Applications

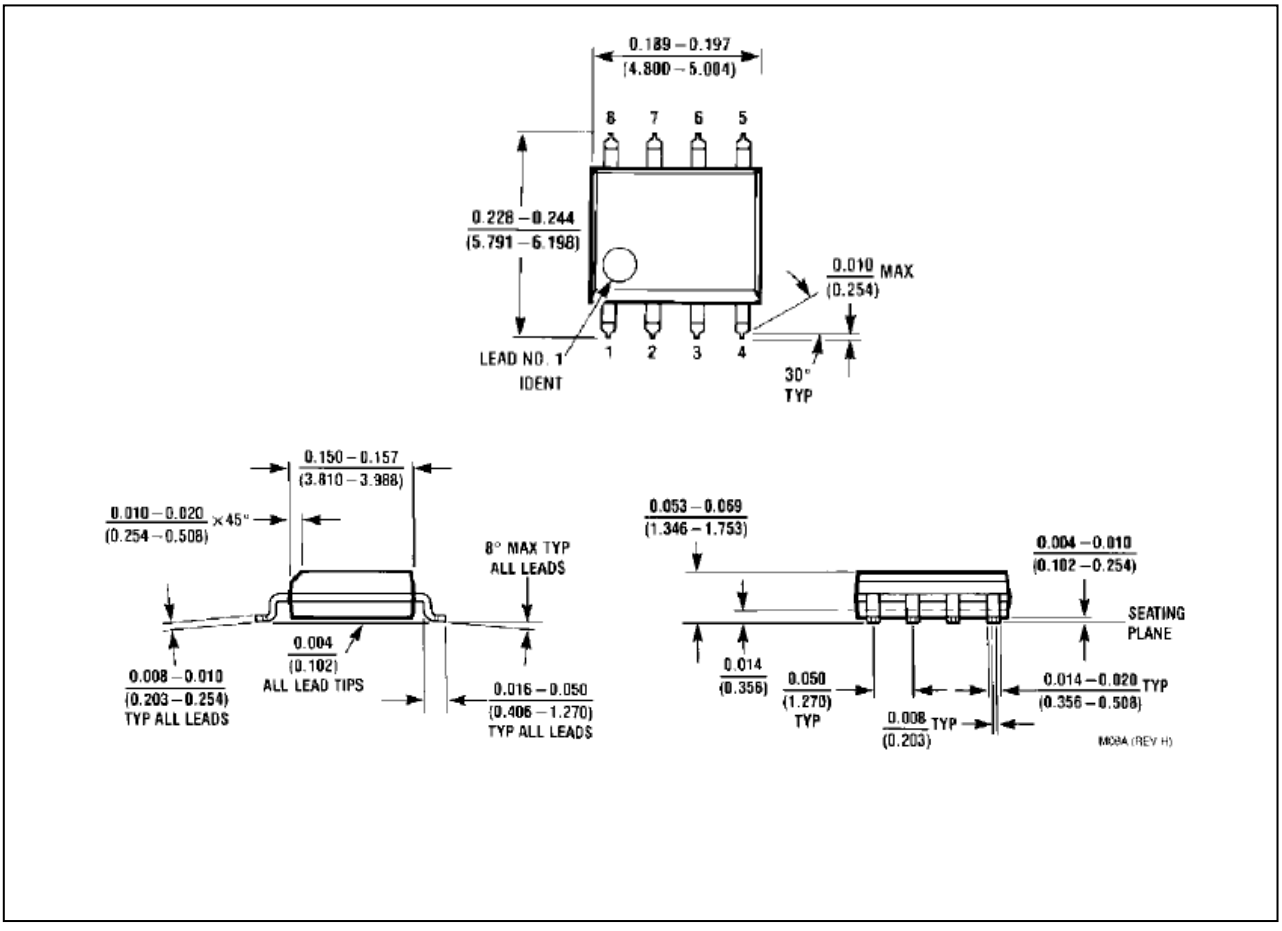
Portable Computers

Desktop Computers

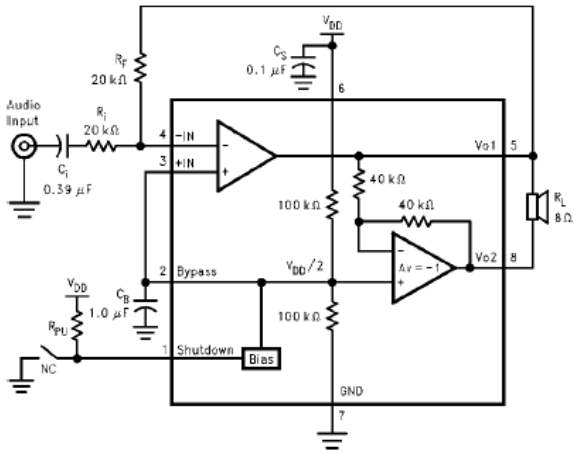
Low Voltage Audio Systems

HMHM

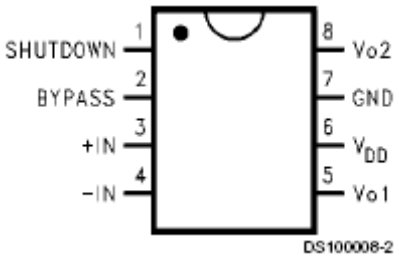
● Package Information



Typical Application



PIN CONFIGURATION



Absolute Maximum Ratings @T_A = 25°C unless otherwise noted

Supply Voltage ---------- ---------6.0V

Storage Temperature ----------−65°C to +150°C

Input Voltage ----------−0.3V to V_{DD} +0.3V

Power Dissipation ---------- Internally Limited

ESD Susceptibility----------5000V

Junction Temperature ----------150°C

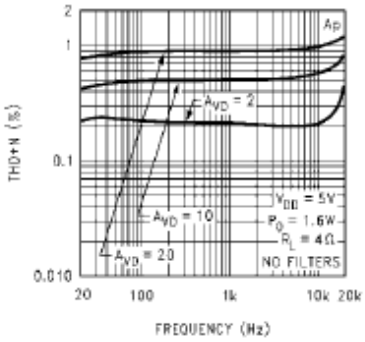
Electrical Characteristics

The following specifications apply for VDD = 5V unless otherwise specified. Limits apply for TA = 25°C.

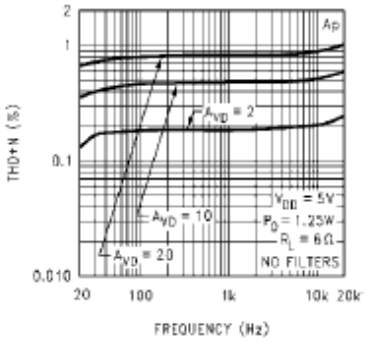
Symbol	Parameter	Conditions	Typical	Limit	Units
VDD	Supply Voltage			2.0-5.5	V
IDD	Quiescent Power Supply Current	VIN = 0V, Io = 0A	6.5	10	mA
ISD	Shutdown Current	VPIN1 = VDD	0.6	2	uA
VOS	Output Offset Voltage	VIN = 0V	5	50	mV
Po	Output Power	THD = 0.5% (max); f = 1 kHz	1.1	1	W
		THD+N = 10%; f = 1 kHz	1.5		W
THD+N	Total Harmonic Distortion+Noise	Po = 1 Wrms; AVD = 2; 20 Hz < f< 20 kHz	0.25		%
PSRR	Power Supply Rejection Ratio	VDD = 4.9V to 5.1V	65		dB

- **Typical Performance Characteristics**

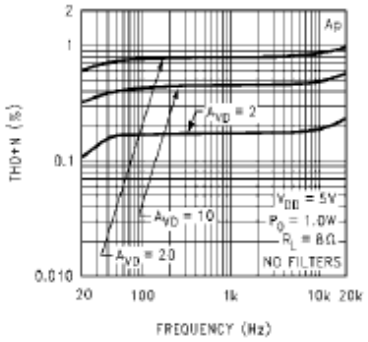
THD+N vs Frequency



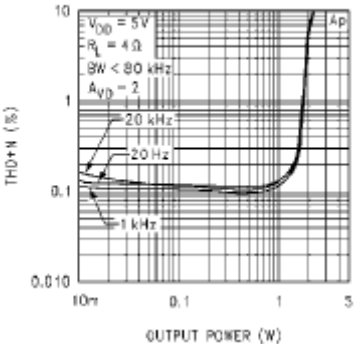
THD+N vs Frequency



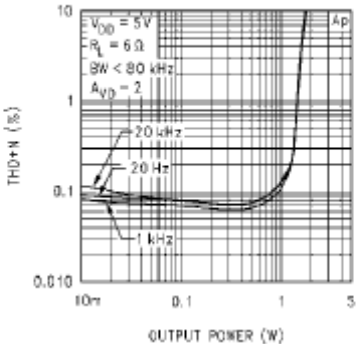
THD+N vs Frequency



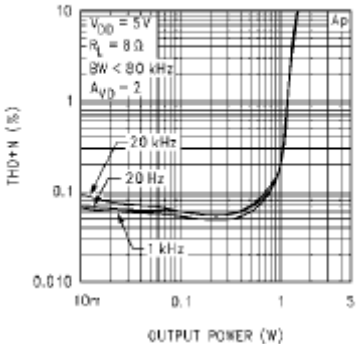
THD+N vs Output Power

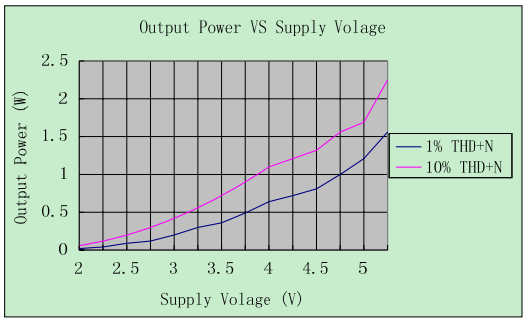


THD+N vs Output Power

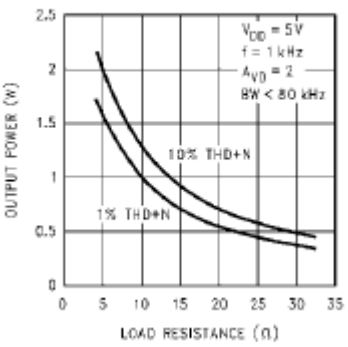


THD+N vs Output Power

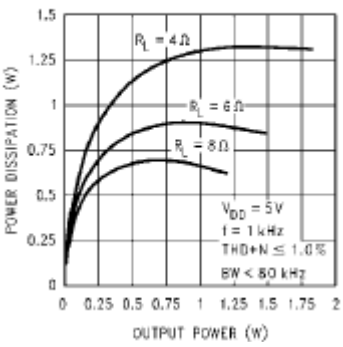




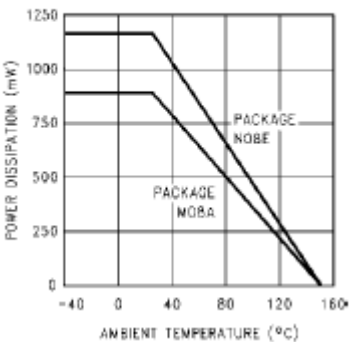
Output Power vs Load Resistance



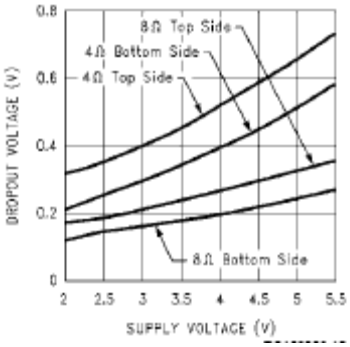
Power Dissipation vs Output Power



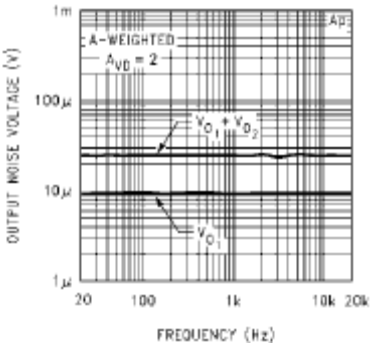
Power Derating Curve



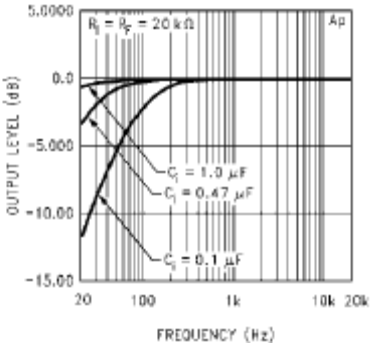
Clipping Voltage vs Supply Voltage



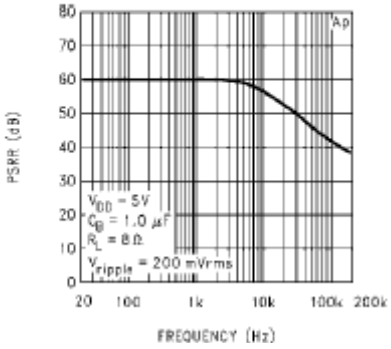
Noise Floor



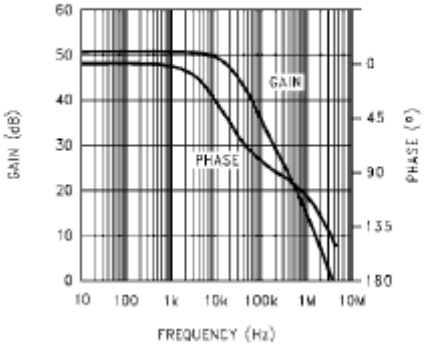
Frequency Response vs Input Capacitor Size



Power Supply Rejection Ratio



Open Loop Frequency Response



Supply Current vs Supply Voltage