

AF4871A 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 8Ω 0.5%

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

Shutdown Current 0.6 μA

● General Description

The AF4871A is a bridge-connected audio power amplifier capable

of delivering typically 1.1W of continuous average power to an 8Ω 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 AF4871A does not require output

coupling capacitors, bootstrap capacitors, or snubber networks, it is optionally suited for low-power portable systems.

The AF4871A features an externally controlled, low-power consumption shutdown mode, as well as an internal thermal shutdown protection mechanism.

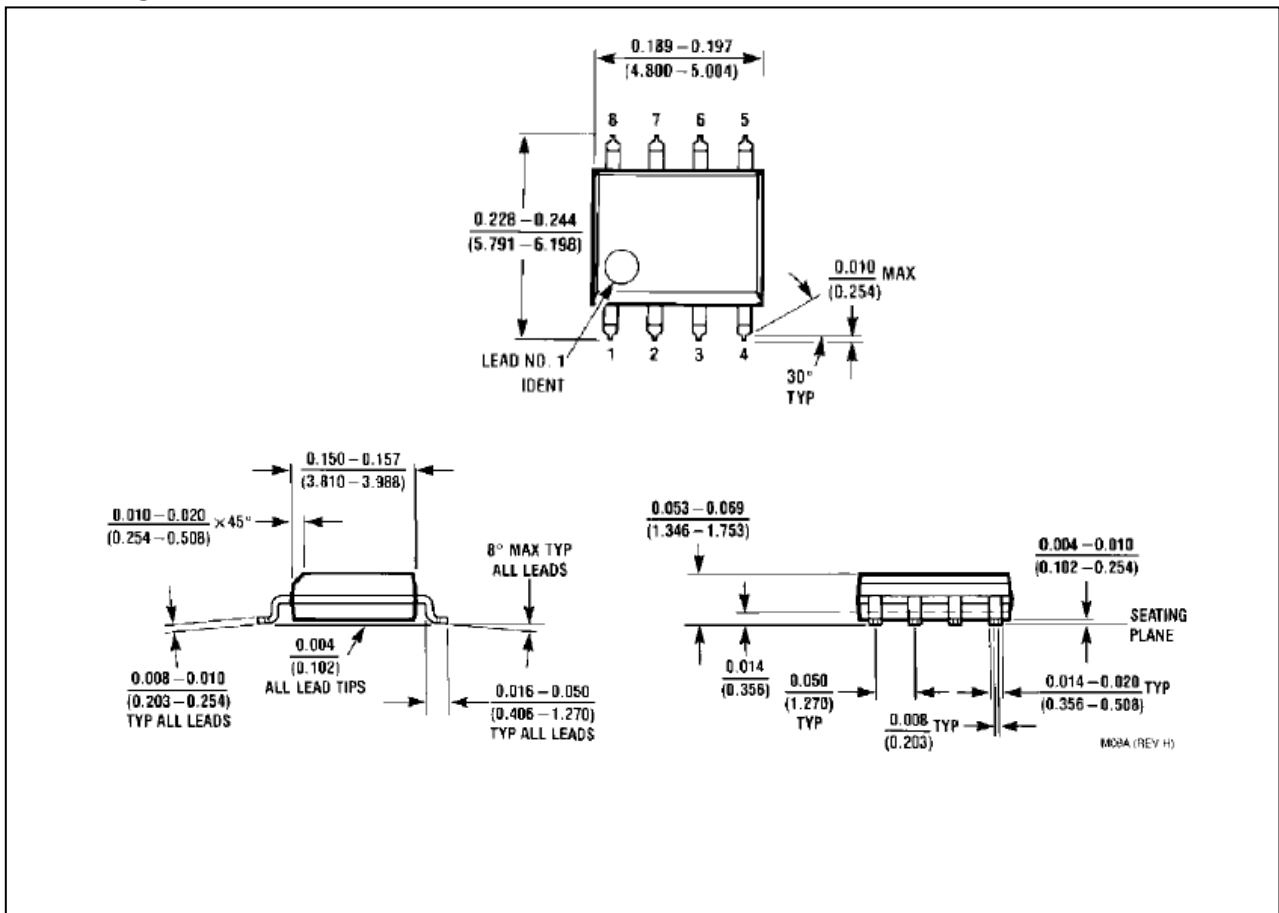
The unity-gain stable AF4871A can be configured by external gain-setting resistors.

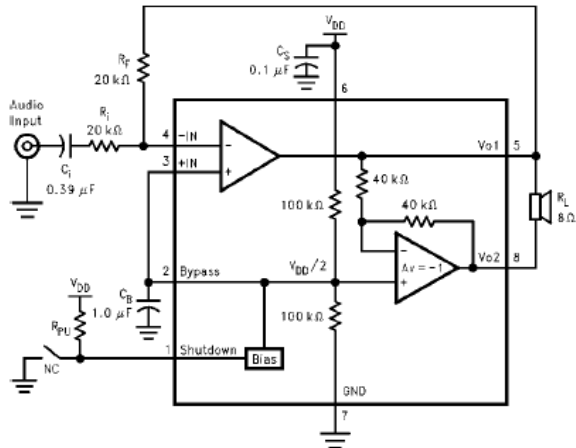
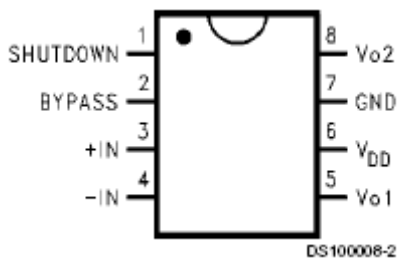
● Applications

Portable Computers

Desktop Computers

Low Voltage Audio Systems

● Package Information


● Typical Application

● PIN CONFIGURATION

● Absolute Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise noted

- Supply Voltage -----6.0V
- Storage Temperature ----- -65°C to $+150^\circ\text{C}$
- Input Voltage ----- -0.3V to $V_{DD} + 0.3\text{V}$
- Power Dissipation ----- Internally Limited
- ESD Susceptibility-----5000V
- Junction Temperature ----- 150°C

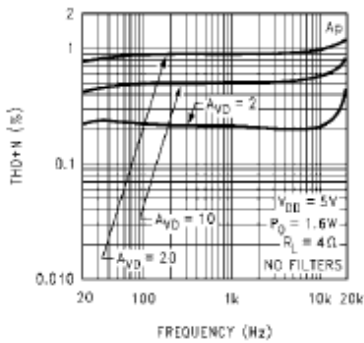
● Electrical Characteristics

The following specifications apply for $V_{DD} = 5\text{V}$ unless otherwise specified. Limits apply for $T_A = 25^\circ\text{C}$.

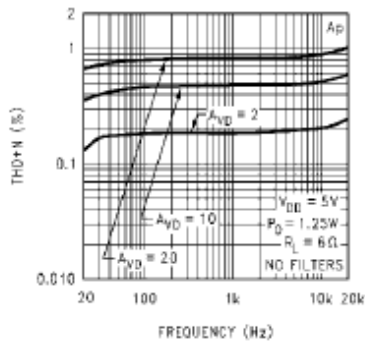
Symbol	Parameter	Conditions	Typical	Limit	Units
VDD	Supply Voltage			2.0-5.5	V
IDD	Quiescent Power Supply Current	$V_{IN} = 0\text{V}$, $I_o = 0\text{A}$	6.5	10	mA
ISD	Shutdown Current	$V_{PIN1} = V_{DD}$	0.6	2	μA
VOS	Output Offset Voltage	$V_{IN} = 0\text{V}$	5	50	mV
Po	Output Power	THD = 0.5% (max); f = 1 kHz	1.1	1	W
		THD+N = 10%; f = 1 kHz	1.5		W
THD+N	Total Harmonic Distortion+Noise	$P_o = 1\text{ Wrms}$; AVD = 2; 20 Hz < f < 20 kHz	0.25		%
PSRR	Power Supply Rejection Ratio	$V_{DD} = 4.9\text{V}$ to 5.1V	65		dB

• Typical Performance Characteristics

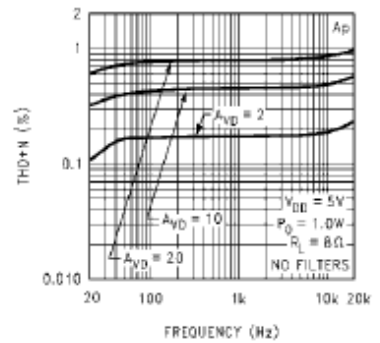
THD+N vs Frequency



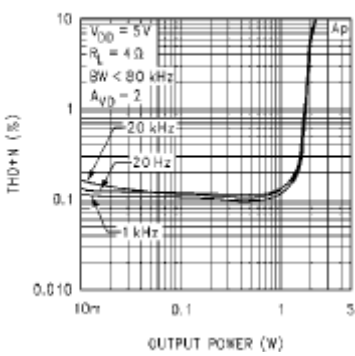
THD+N vs Frequency



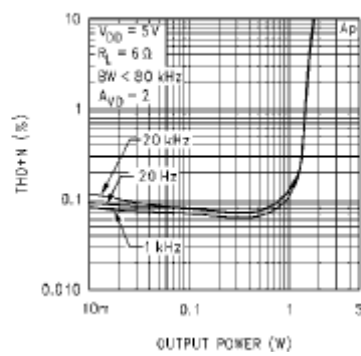
THD+N vs Frequency



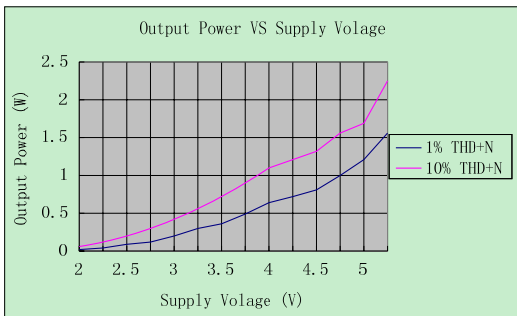
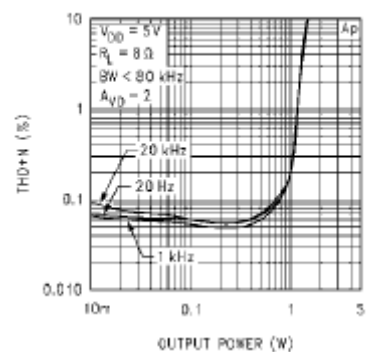
THD+N vs Output Power



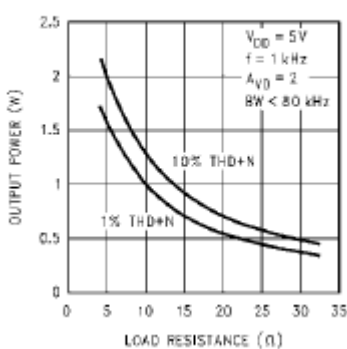
THD+N vs Output Power



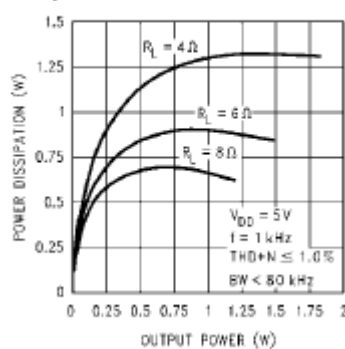
THD+N vs Output Power



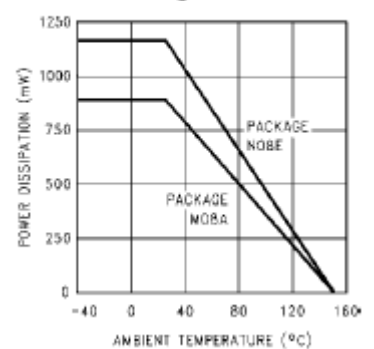
Output Power vs Load Resistance

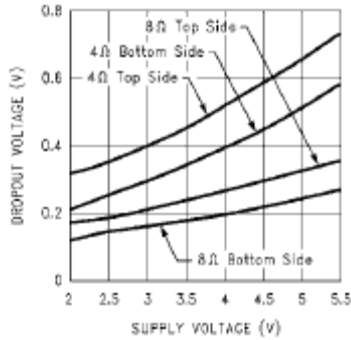
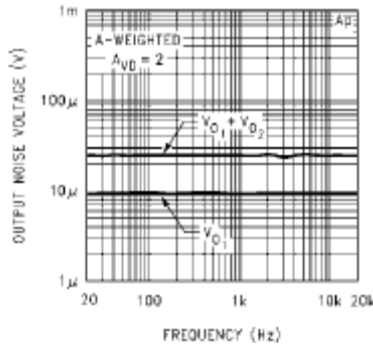
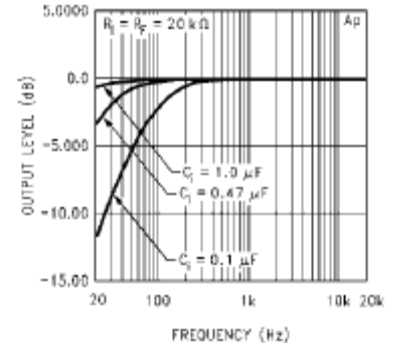
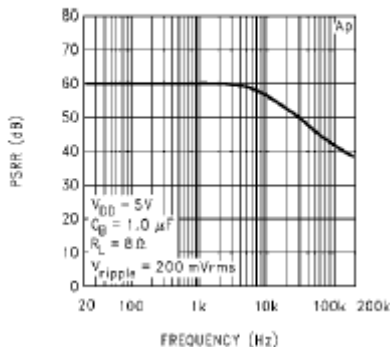
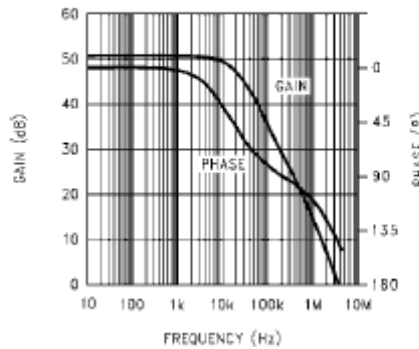
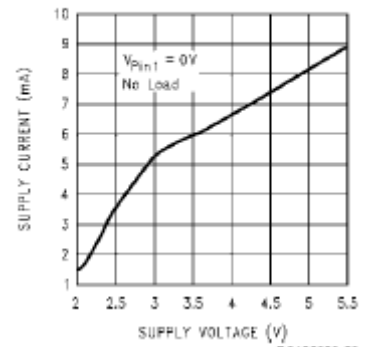


Power Dissipation vs Output Power



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


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