



PA4871

CMOS IC

1.1W AUDIO POWER AMPLIFIER WITH SHUTDOWN MODE

DESCRIPTION

As a mono bridged power amplifier which is operating on a single 5V supply, the UTC **PA4871** is capable of delivering 1.1W of output power per channel into 8Ω loads with less than 0.5% THD+N.

The UTC **PA4871** is optimally suited for low-power portable applications because of the it do not require output coupling capacitors, bootstrap capacitors or snubber networks.

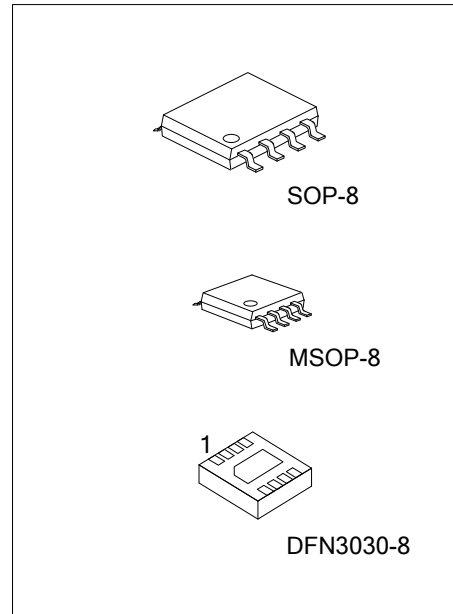
By using external gain-setting resistors, the closed loop response of the unity-gain stable **PA4871** can be configured.

FEATURES

- * Output power at 0.5% THD+N
Supply voltage:5V
Delivering 1.1W into a 8Ω load
- * With shutdown mode
- * Stable unity-gain.

ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
PA4871L-S08-R	PA4871G-S08-R	SOP-8	Tape Reel
PA4871L-SM1-R	PA4871G-SM1-R	MSOP-8	Tape Reel
PA4871L-K08-3030-R	PA4871G-K08-3030-R	DFN3030-8	Tape Reel

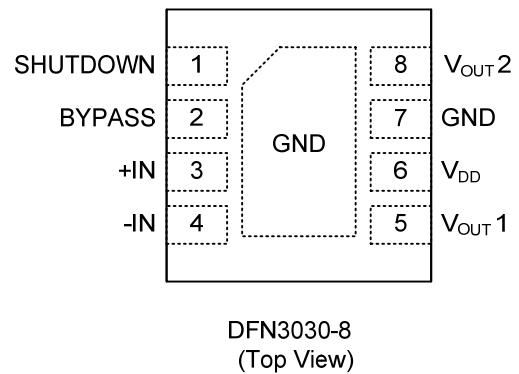
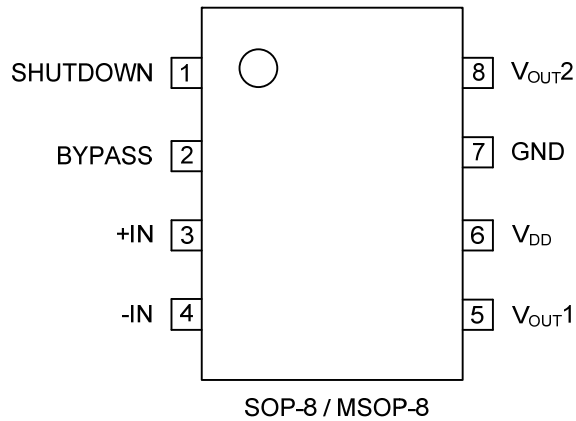


<p>PA4871G-S08-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) S08: SOP-8, SM1: MSOP-8, K08-3030:DFN3030-8 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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MARKING

SOP-8 / MSOP-8	DFN3030-8
<p>UTC □□□□ → Date Code PA4871 □ → L: Lead Free □ → G: Halogen Free ● □□□□ → Lot Code</p>	<p>PA 4871 ● □□□□ → Date Code</p>

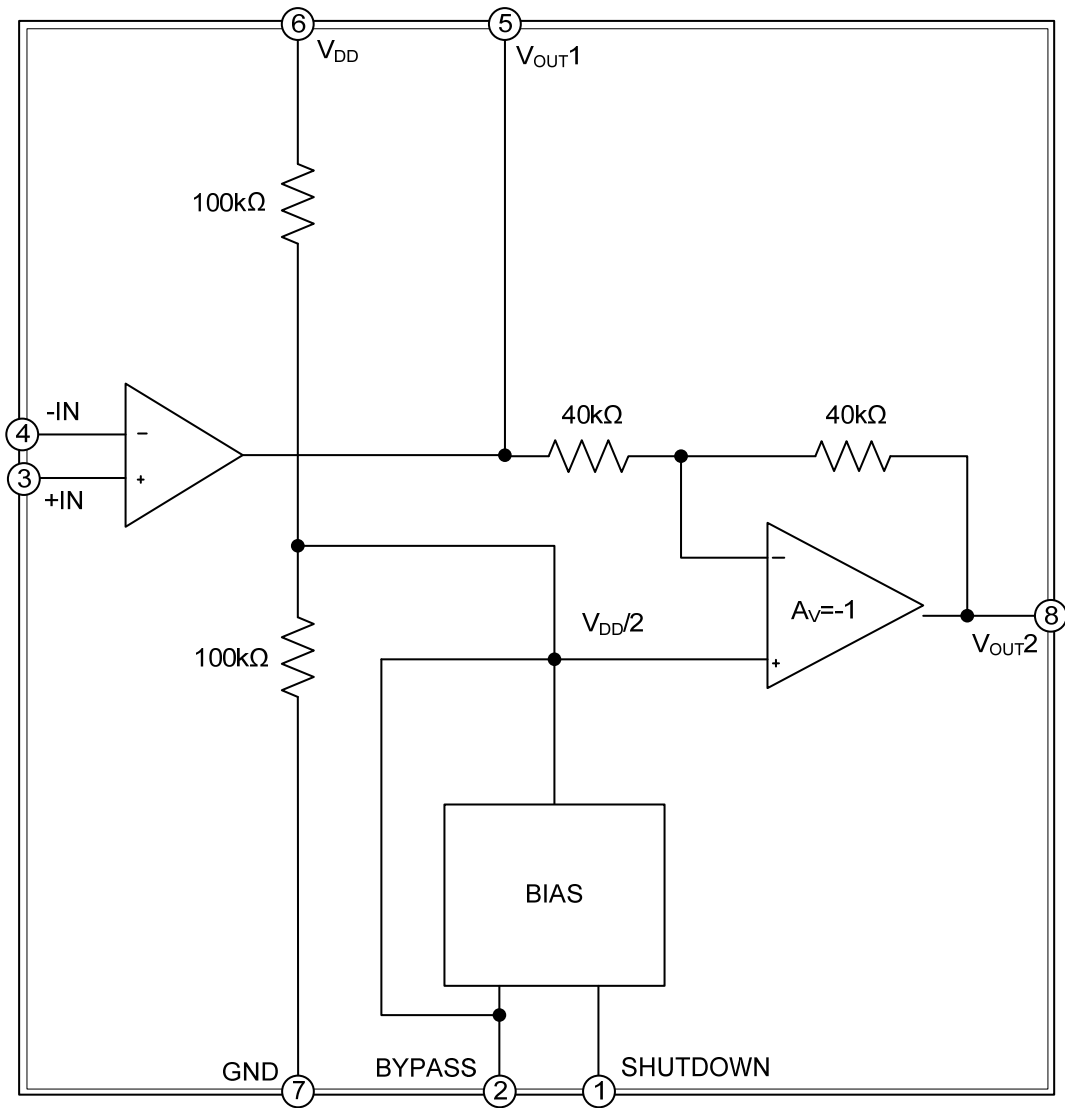
PIN CONFIGURATION



PIN DESCRIPTION

PIN NO		PIN NAME	DESCRIPTION
SOP-8 MSOP-8	DFN3030-8		
1	1	SHUTDOWN	Shutdown control input pin.
2	2	BYPASS	Connected to a bypass capacitor.
3	3	+IN	+ pin of input signal.
4	4	-IN	- pin of input signal.
5	5	V _{OUT1}	Output pin1
6	6	V _{DD}	Supply voltage
7	7	GND	GND
8	8	V _{OUT2}	Output pin2
-	Exposed Pad	GND	Connect exposed pad to GND.

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{DD}	6	V
Input Voltage	V_{IN}	-0.3 ~ $V_{DD}+0.3$	V
Power Dissipation	P_D	Internally Limited	W
Junction Temperature	T_J	150	°C
Operating Temperature	T_{OPR}	-40 ~ +85	°C
Storage Temperature	T_{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

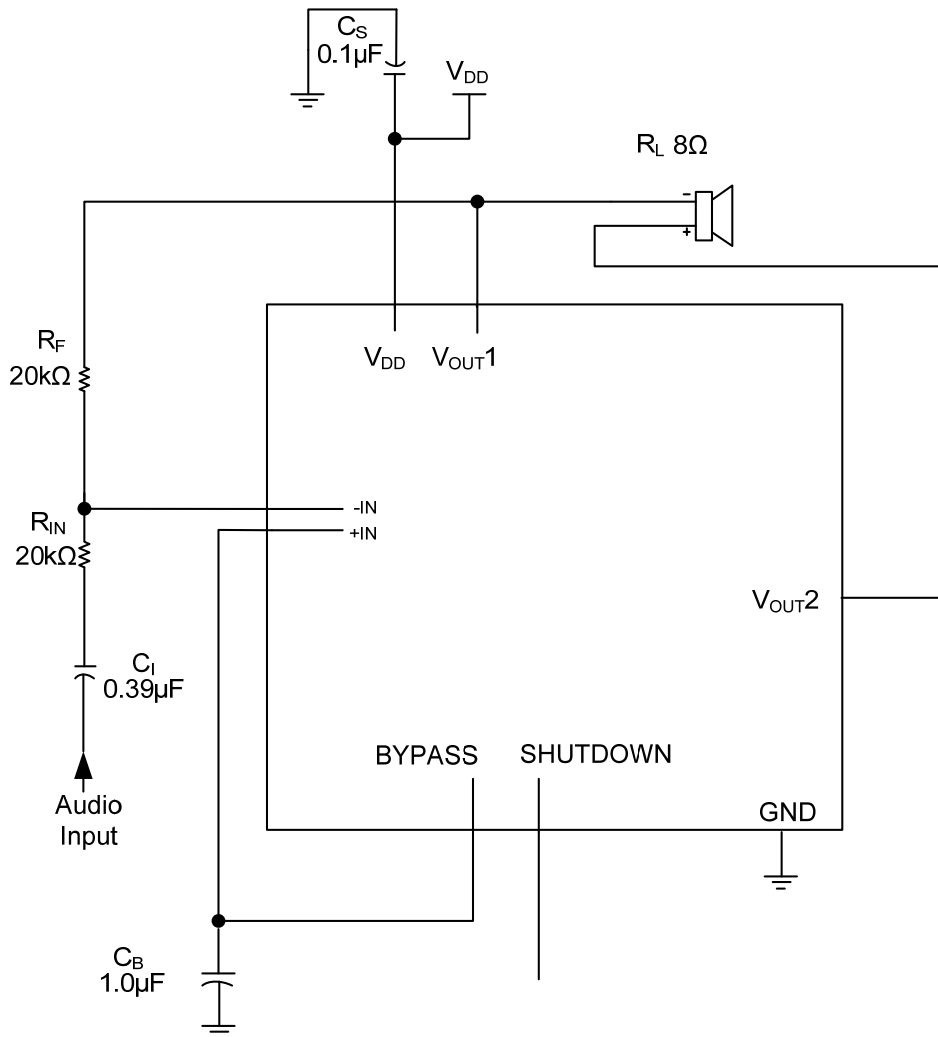
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	SOP-8	140	°C/W
	MSOP-8	210	°C/W
	DFN3030-8	59	°C/W
Junction to Case	SOP-8	35	°C/W
	MSOP-8	56	°C/W
	DFN3030-8	4.3 (Note)	°C/W

Note: Surface mounted on 1 in² copper pad of FR4 board.

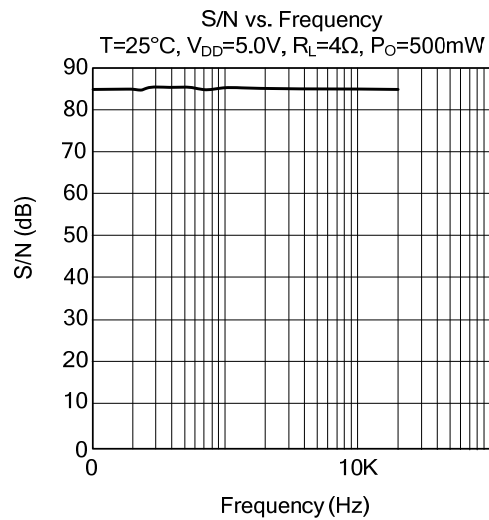
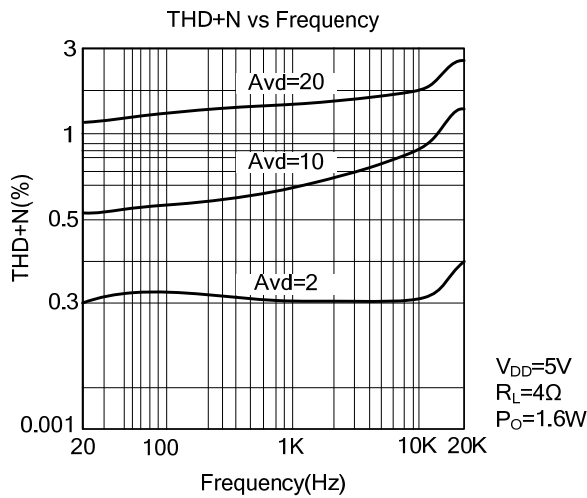
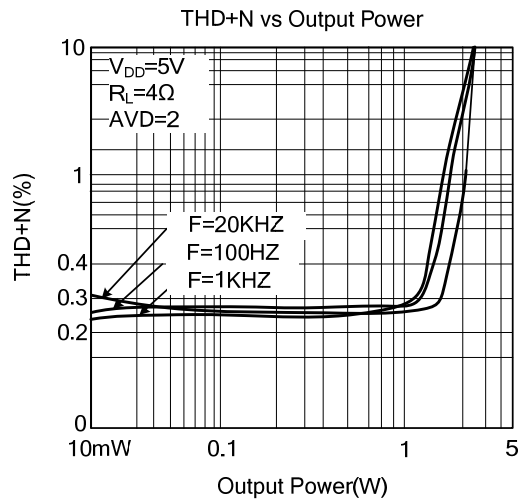
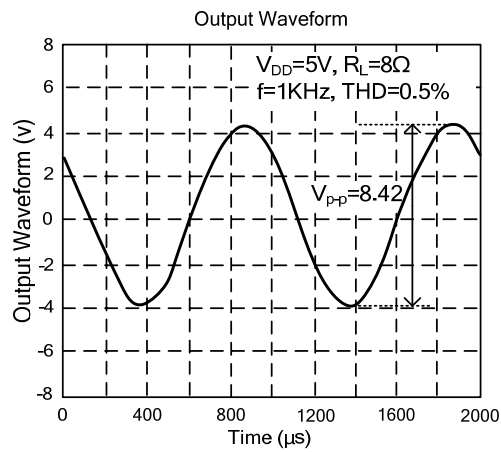
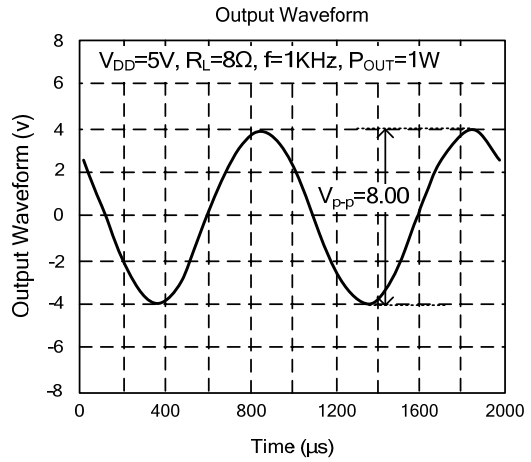
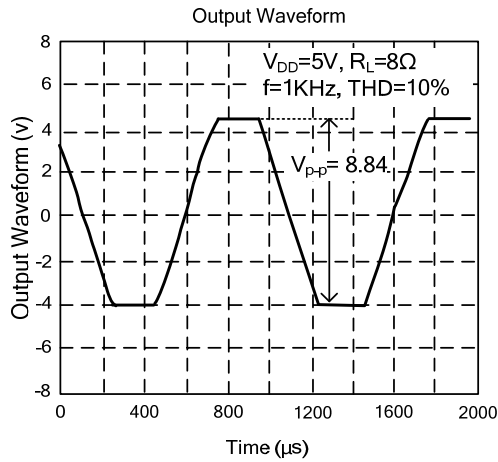
■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, $V_{DD}=5\text{V}$, $R_L=8\Omega$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC ELECTRICAL CHARACTERISTICS						
Supply Voltage	V_{DD}		2.0	5	5.5	V
DC Differential Output Voltage	$V_{OUT(DIFF)}$	$V_{IN}=0\text{V}$		5	50	mV
Supply Current	Mute Mode	$V_{IN}=0\text{V}$, $I_{OUT}=0\text{A}$		6.5	10.0	mA
	Shutdown Mode		$V_{PIN1}=V_{DD}$		0.6	2
Output Power	P_{OUT}	THD=0.5%, $f_{IN}=1\text{kHz}$	1.0	1.10		W
		THD=10%, $f_{IN}=1\text{kHz}$		1.5		W
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=1W_{RMS}$, 20Hz< f_{IN} <20kHz, G=2V/V		0.25		%
Power Supply Ripple Rejection	PSRR	$V_{DD}=4.9\text{V}$ to 5.1V		65		dB

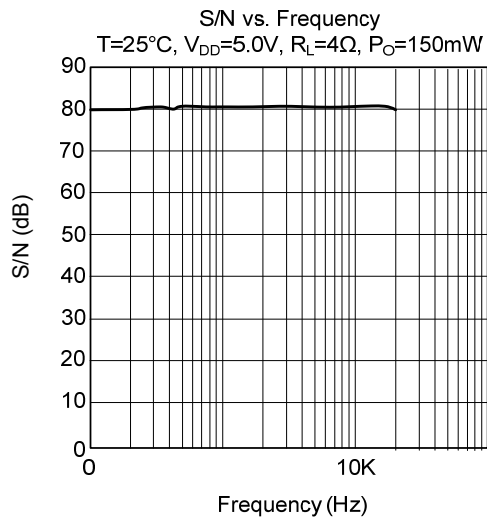
■ TYPICAL APPLICATION CIRCUIT



TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



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