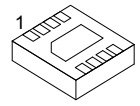
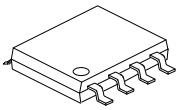
PA4871 **CMOS IC**

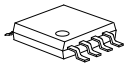
1.1W AUDIO POWER AMPLIFIER WITH SHUTDOWN MODE



DFN-8(3x3)



SOP-8



MSOP-8

■ 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.
* Halogen Free

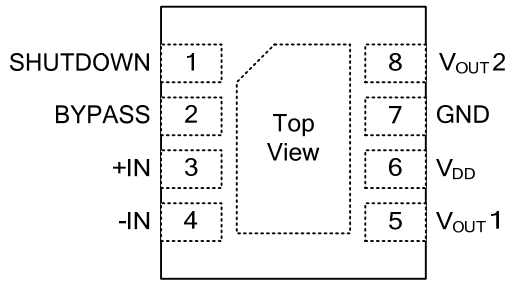
■ ORDERING INFORMATION

Ordering Number	Package	Packing
PA4871G-30Q-8-R	DFN-8	Tape Reel
PA4871G-S08-R	SOP-8	Tape Reel
PA4871G-SM1-R	MSOP-8	Tape Reel

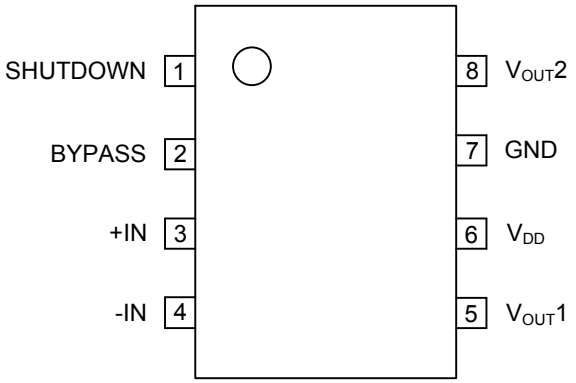
PA4871G-30Q-8-R (1) Packing Type (2) Package Type (3) Halogen Free	(1) R: Tape Reel (2) DFN-8: 30Q-8, S08: SOP-8, SM1: MSOP-8 (3) G: Halogen Free

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■ PIN CONFIGURATION



DFN-8(3×3)

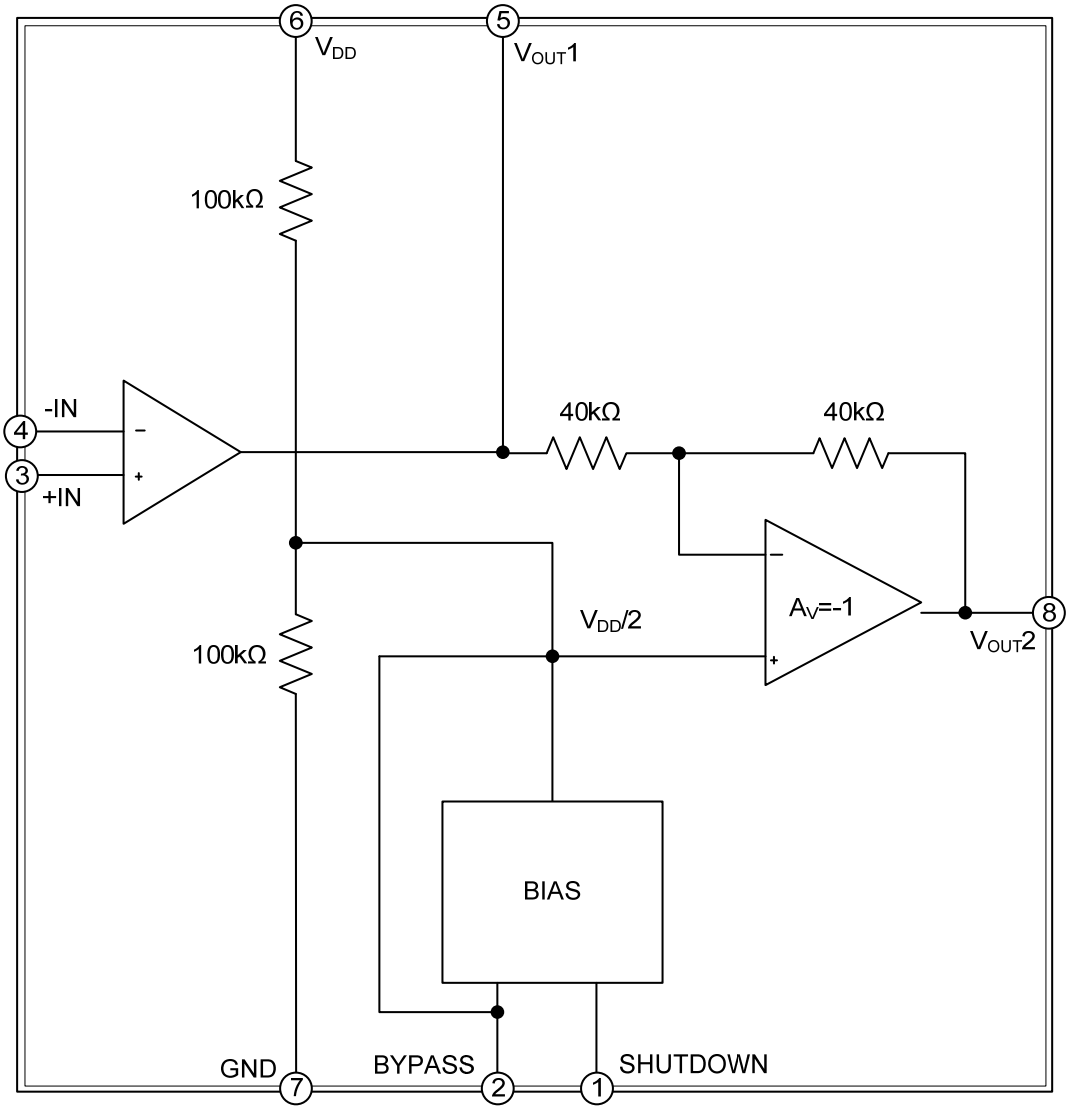


SOP-8 / MSOP-8

■ PIN DESCRIPTION

PIN NO	PIN NAME	DESCRIPTION
1	SHUTDOWN	Shutdown control input pin.
2	BYPASS	Connected to a bypass capacitor.
3	+IN	+ pin of input signal.
4	-IN	- pin of input signal.
5	V_{OUT1}	Output pin1
6	V_{DD}	Supply voltage
7	GND	GND
8	V_{OUT2}	Output pin2

■ 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

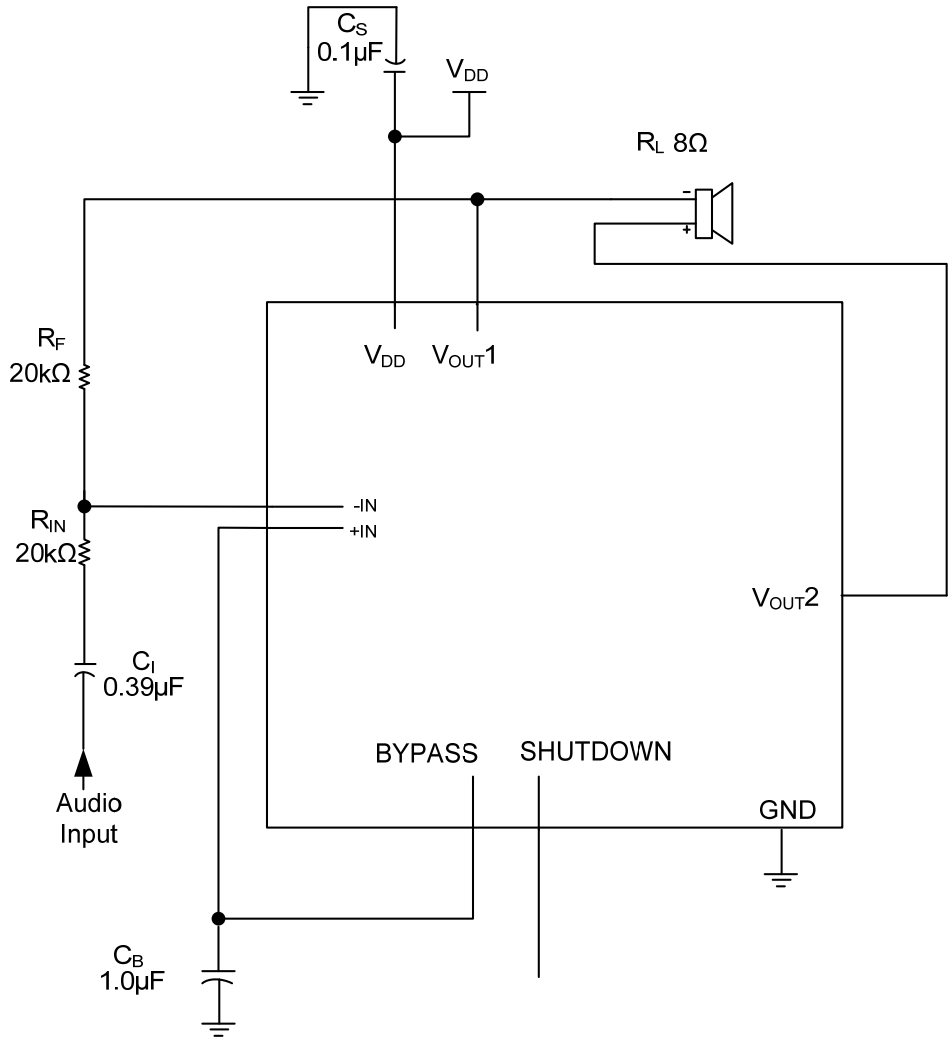
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	DFN-8(3×3)	θ_{JA}	59	°C/W
	SOP-8/MSOP-8		140	°C/W
Junction to Case	DFN-8(3×3) (Note)	θ_{JC}	4.3	°C/W
	SOP-8/MSOP-8		35	°C/W

Note: Surface mounted on 1 in ^{2} copper pad of FR4 board

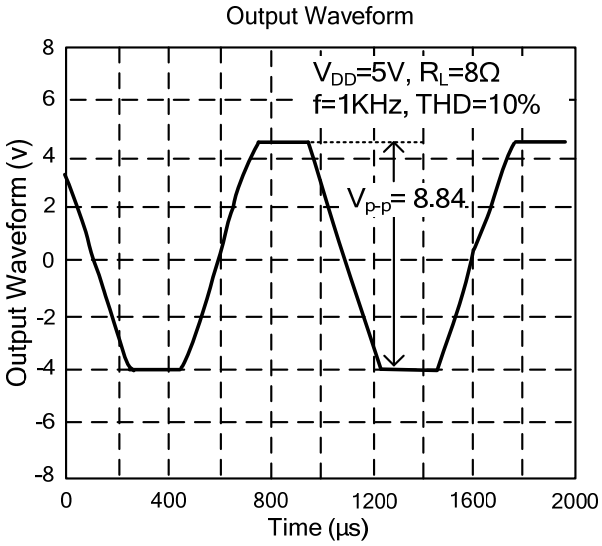
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V_{DD}=5V, R_L=8Ω, unless otherwise specified)

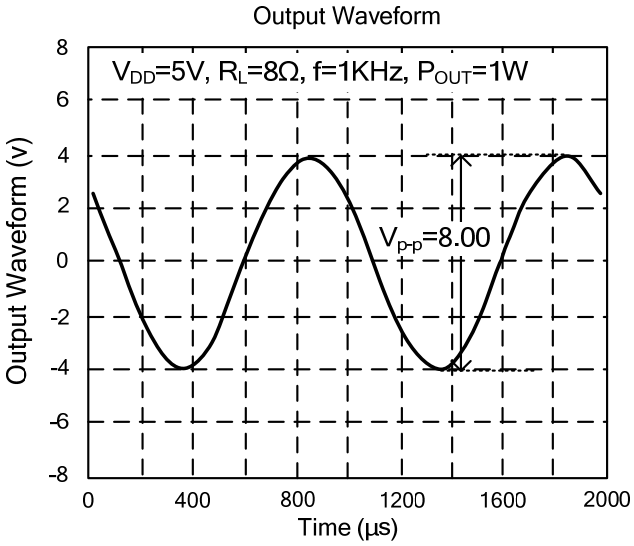
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
DC ELECTRICAL CHARACTERISTICS							
Supply Voltage		V_{DD}		2.0	5	5.5	V
DC Differential Output Voltage		$V_{OUT(DIFF)}$	V_{IN}=0V		5	50	mV
Supply Current	Mute Mode	I_{DD}	V_{IN}=0V,I_{OUT}=0A		6.5	10.0	mA
	Shutdown Mode		V_{PIN1}=V_{DD}		0.6	2	μA
Output Power		P_{OUT}	THD=0.5%, f_{IN}=1kHz	1.0	1.10		W
			THD=10%, f_{IN}=1kHz		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}=4.9V to 5.1V		65		dB

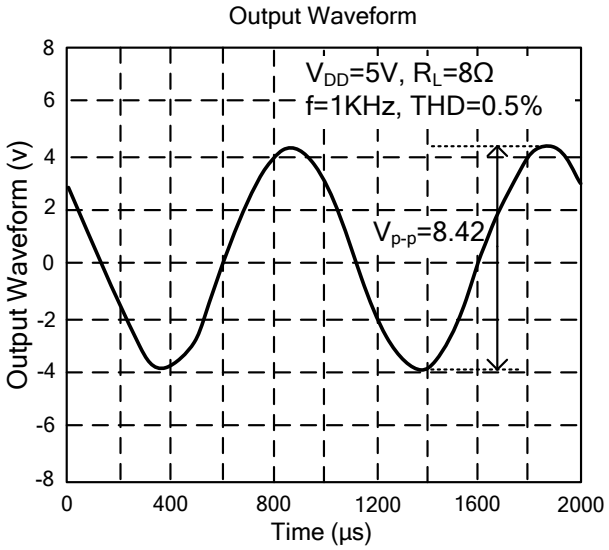
■ TYPICAL APPLICATION CIRCUIT



■ TYPICAL CHARACTERISTICS







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