



## PA4819

CMOS IC

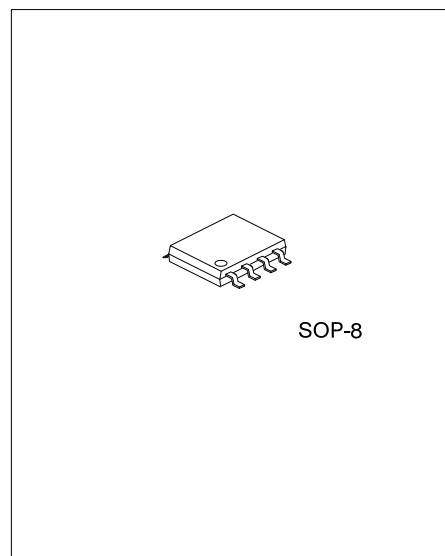
### 350mW AUDIO POWER AMPLIFIER WITH SHUTDOWN MODE

#### DESCRIPTION

As a mono bridged power amplifier which is operating on a single 5V supply, the UTC **PA4819** is capable of delivering 350mW<sub>RMS</sub> of output power per channel into 16Ω loads with less than 10% THD+N and also delivering 300mW<sub>RMS</sub> of output power per channel into 8Ω loads with less than 10% THD+N.

The UTC **PA4819** 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 **PA4819** can be configured.



#### FEATURES

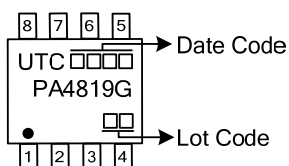
- \* Output power at 10% THD+N  
Supply voltage:5V  
Delivering 350mW<sub>RMS</sub> into a 16Ω load  
Delivering 300mW<sub>RMS</sub> into a 8Ω load
- \* With shutdown mode
- \* Stable unity-gain.

#### ORDERING INFORMATION

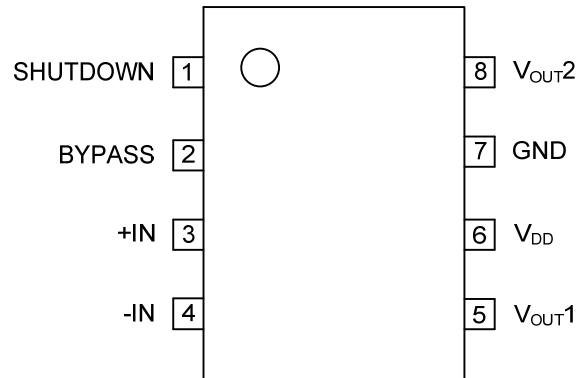
Ordering Number	Package	Packing
PA4819G-S08-R	SOP-8	Tape Reel

<p>PA4819G-S08-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) S08: SOP-8</li> <li>(3) G: Halogen Free and Lead Free</li> </ul>
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#### MARKING



## ■ PIN CONFIGURATION



## ■ PIN DESCRIPTION

PIN NO.	PIN NAME	I/O	PIN DESCRIPTION
1	SHUTDOWN	I	Shutdown control input pin.
2	BYPASS		Connected to a bypass capacitor.
3	+IN	I	+ pin of input signal.
4	-IN	I	- pin of input signal.
5	V <sub>OUT1</sub>	O	Output pin1
6	V <sub>DD</sub>		Supply voltage
7	GND		GND
8	V <sub>OUT2</sub>	O	Output pin2

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### ■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V_{CC}$	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	MIN	TYP	MAX	UNIT
Junction to Ambient	$\theta_{JA}$			170	°C/W
Junction to Case	$\theta_{JC}$			35	°C/W

### ■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , $R_L=16\Omega$ , unless otherwise specified)

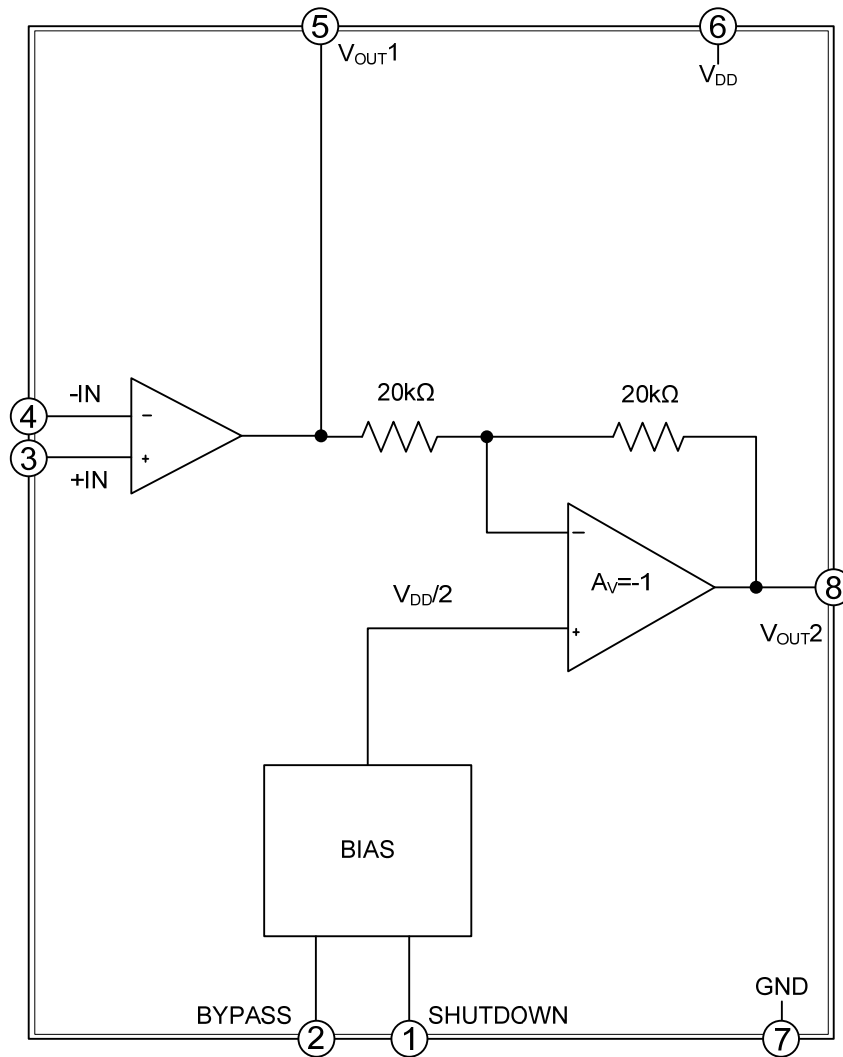
#### For $V_{DD}=3\text{V}$

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	$V_{DD}$		2.0	5	5.5	V
Shutdown voltage Input High-Level	$V_{SDIH}$		2.4			V
Shutdown voltage Input Low-Level	$V_{SDIL}$				0.6	V
DC Differential Output Voltage	$V_{OUT(DIFF)}$	$V_{IN}=0\text{V}$		5	50	mV
Supply Current	Mute Mode	$I_{DD}$	$V_{IN}=0\text{V}$ , $I_{OUT}=0\text{A}$	1.0	3.0	mA
	Shutdown Mode			0.7	5	$\mu\text{A}$
Output Power	$P_{OUT}$	THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=16\Omega$ , THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=8\Omega$ ,		110		mW
				90		
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=80\text{mW}_{RMS}$ , $f_{IN}=1\text{kHz}$ , $G=2\text{V/V}$		1		%

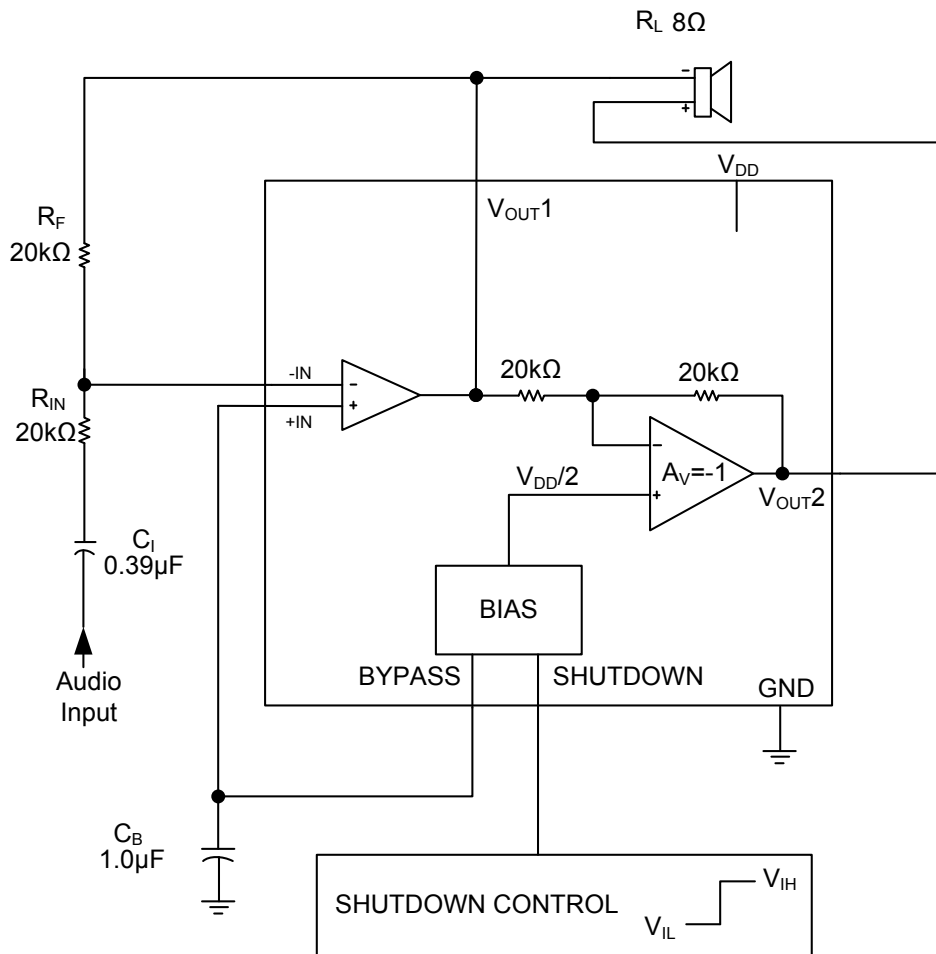
#### For $V_{DD}=5\text{V}$

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	$V_{DD}$		2.0	5	5.5	V
Shutdown voltage Input High-Level	$V_{SDIH}$		4			V
Shutdown voltage Input Low-Level	$V_{SDIL}$				1	V
DC Differential Output Voltage	$V_{OUT(DIFF)}$	$V_{IN}=0\text{V}$		5	50	mV
Supply Current	Mute Mode	$I_{DD}$	$V_{IN}=0\text{V}$ , $I_{OUT}=0\text{A}$	1.5	3.0	mA
	Shutdown Mode			1	5	$\mu\text{A}$
Output Power	$P_{OUT}$	THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=16\Omega$ , THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=8\Omega$ ,		350		mW
				300		
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=270\text{mW}_{RMS}$ , $f_{IN}=1\text{kHz}$ , $G=2\text{V/V}$		1		%

## ■ BLOCK DIAGRAM

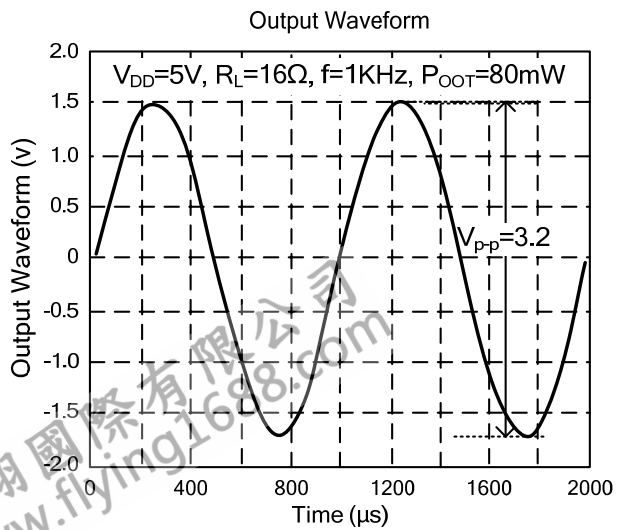
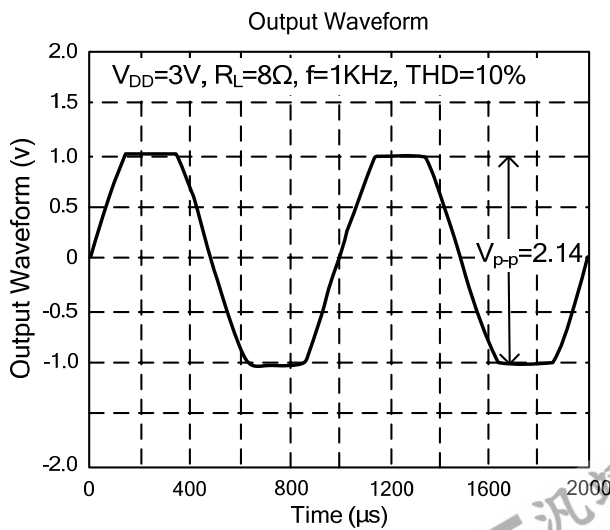
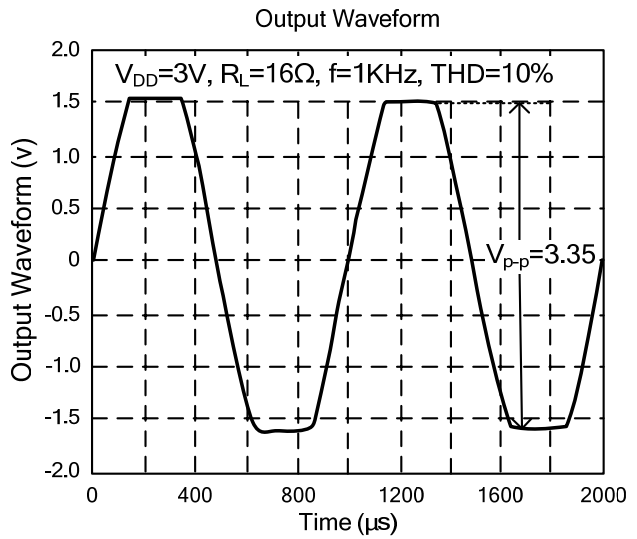
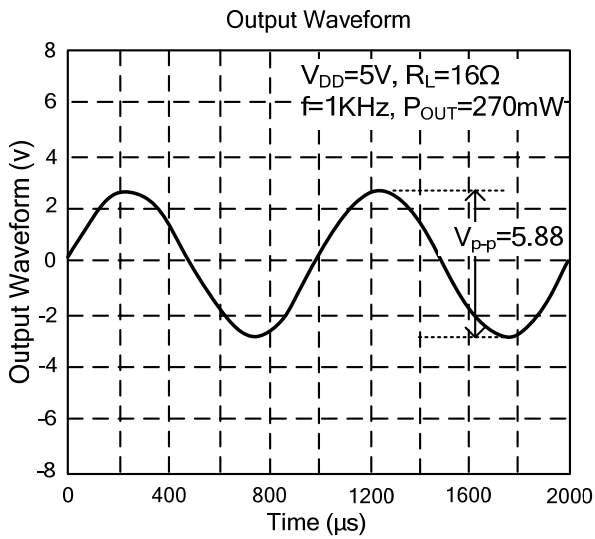
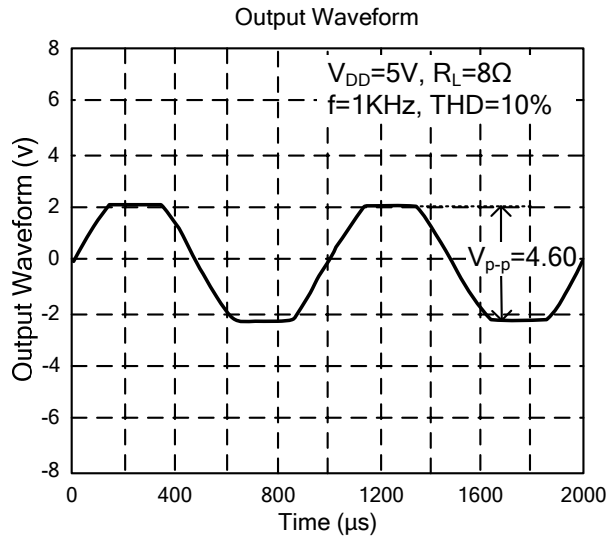
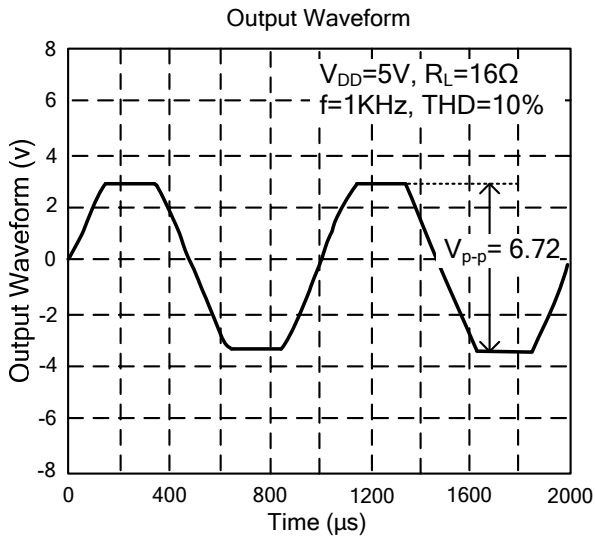


■ TYPICAL APPLICATION CIRCUIT



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■ TYPICAL CHARACTERISTICS



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