



## PA4819

CMOS IC

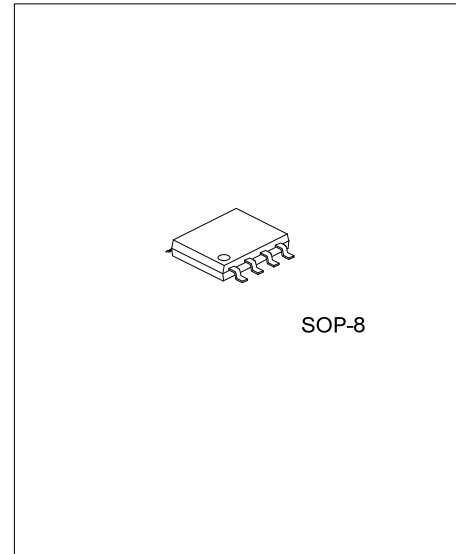
### 350mW AUDIO POWER AMPLIFIER WITH SHUTDOWN MODE

#### 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.



Lead-free: PA4819L  
Halogen-free: PA4819G

#### FEATURES

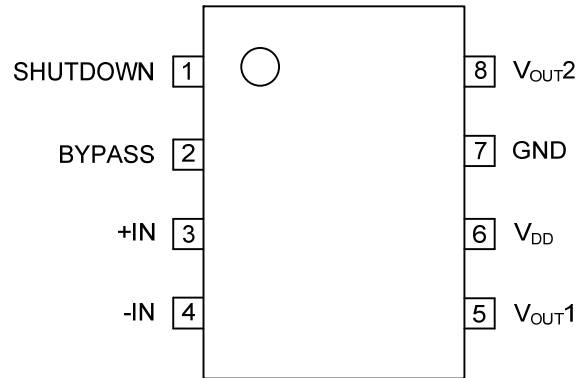
- \* Output power at 10% THD+N  
Supply voltage:5V  
Delivering 350mW<sub>RMS</sub> into a 16Ω load  
Delivering 300mW<sub>RMS</sub> into a 8Ω load
- \* With shutdown mode
- \* Stable unity-gain.

#### ORDERING INFORMATION

Ordering Number			Package	Packing
Normal	Lead Free	Halogen Free		
PA4819-S08-R	PA4819L-S08-R	PA4819G-S08-R	SOP-8	Tape Reel
PA4819-S08-T	PA4819L-S08-T	PA4819G-S08-T	SOP-8	Tube

<p>PA4819L-S08-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube</p> <p>(2) S08: SOP-8</p> <p>(3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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■ 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

### ■ 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.

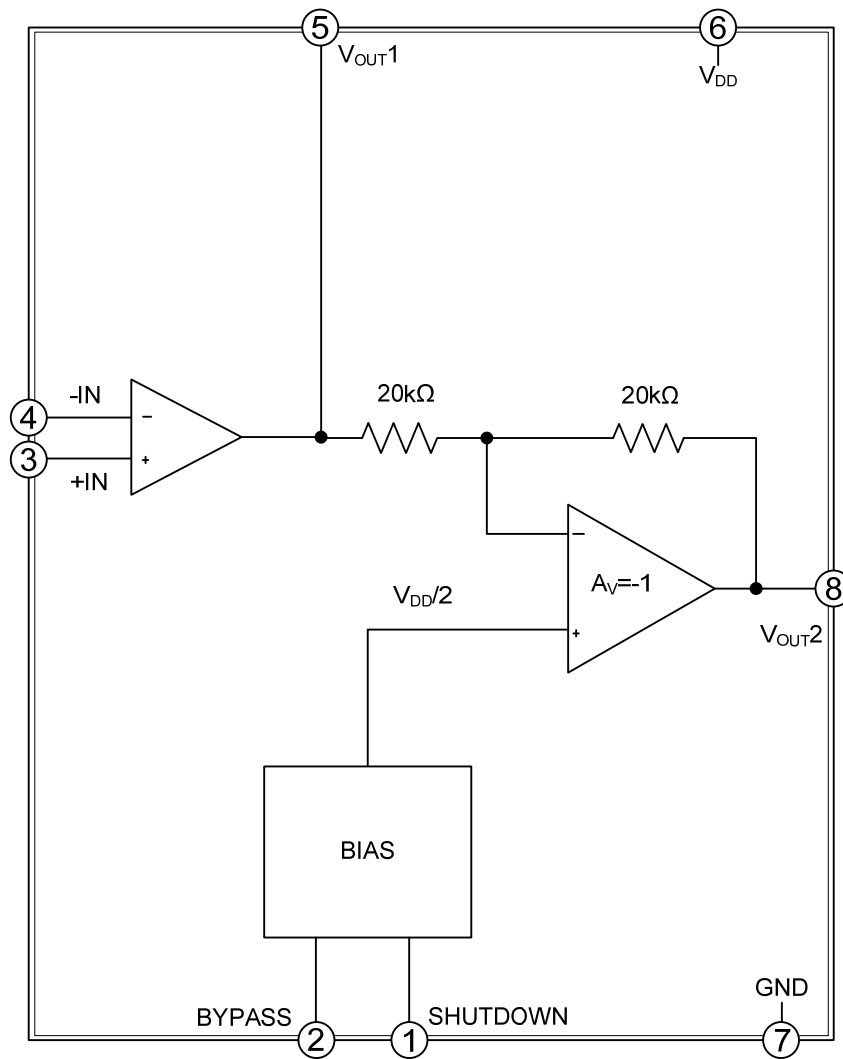
### ■ THERMAL DATA

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

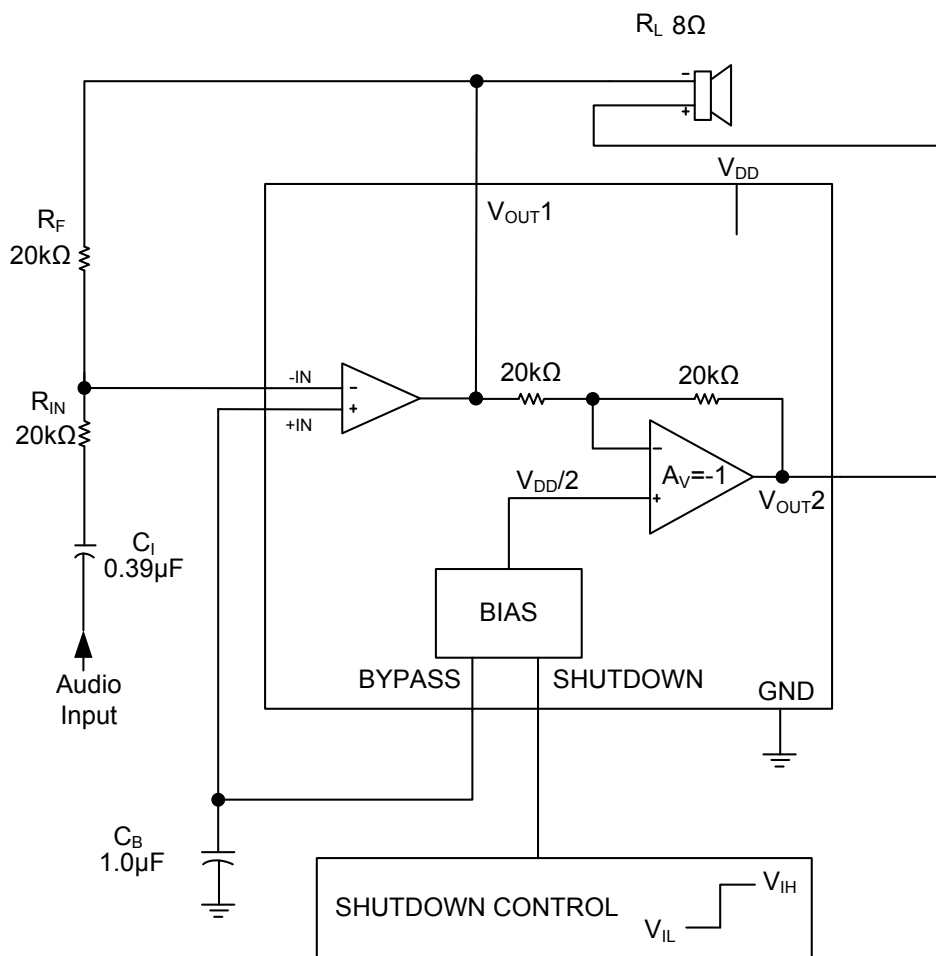
### ■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , $R_L=16\Omega$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>FOR <math>V_{DD}=3V</math></b>						
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	$V_{OUT(DIFF)}$	$V_{IN}=0V$		5	50	mV
Supply Current	Mute Mode	$V_{IN}=0V, I_{OUT}=0A$ $V_{PIN1}=V_{DD}$		1.0	3.0	mA
	Shutdown Mode			0.7	5	$\mu A$
Output Power	$P_{OUT}$	THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=16\Omega$ ,		110		mW
		THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=8\Omega$ ,		90		
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=80\text{mW}_{RMS}$ , $f_{IN}=1\text{kHz}$ , $G=2V/V$		1		%
<b>FOR <math>V_{DD}=5V</math></b>						
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	$V_{OUT(DIFF)}$	$V_{IN}=0V$		5	50	mV
Supply Current	Mute Mode	$V_{IN}=0V, I_{OUT}=0A$ $V_{PIN1}=V_{DD}$		1.5	3.0	mA
	Shutdown Mode			1	5	$\mu A$
Output Power	$P_{OUT}$	THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=16\Omega$ ,		350		mW
		THD=10%, $f_{IN}=1\text{kHz}$ , $R_L=8\Omega$ ,		300		
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=270\text{mW}_{RMS}$ , $f_{IN}=1\text{kHz}$ , $G=2V/V$		1		%

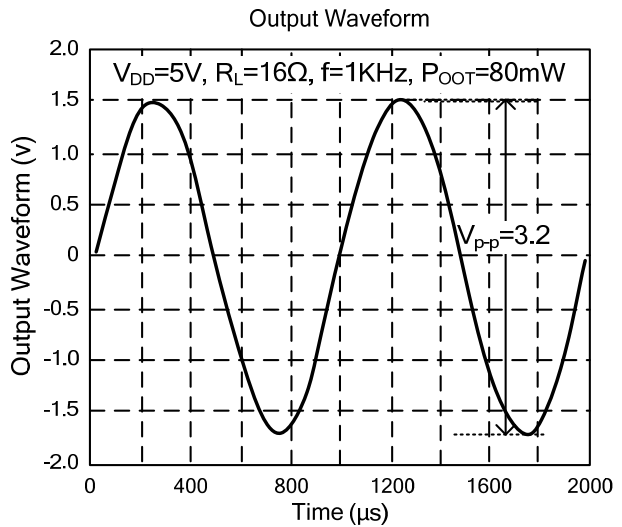
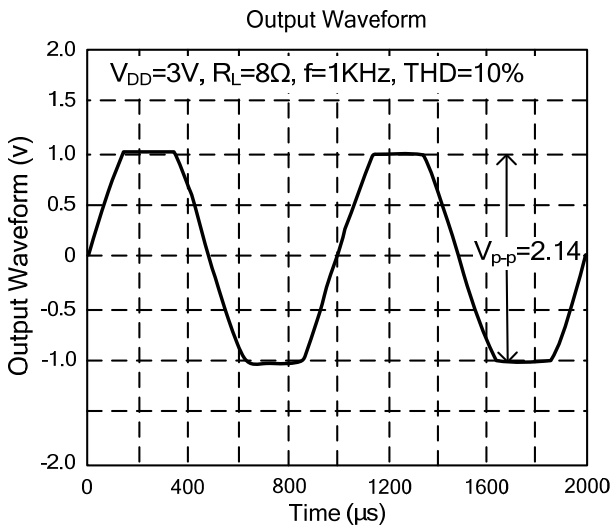
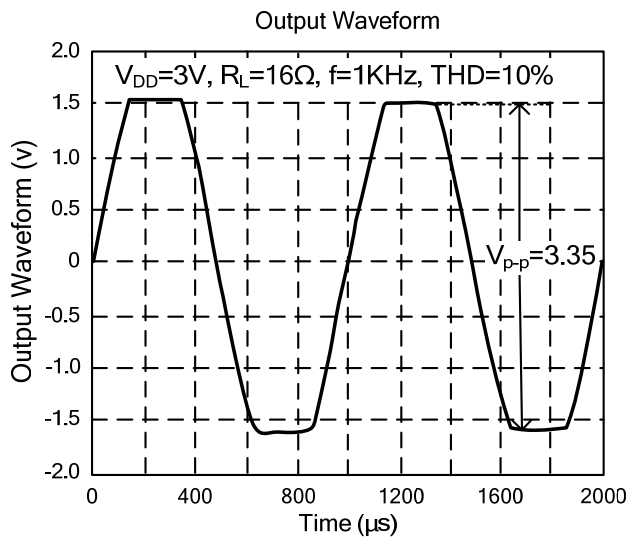
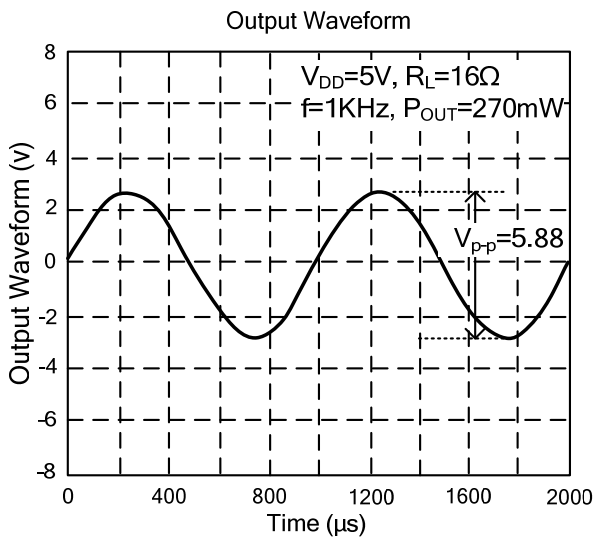
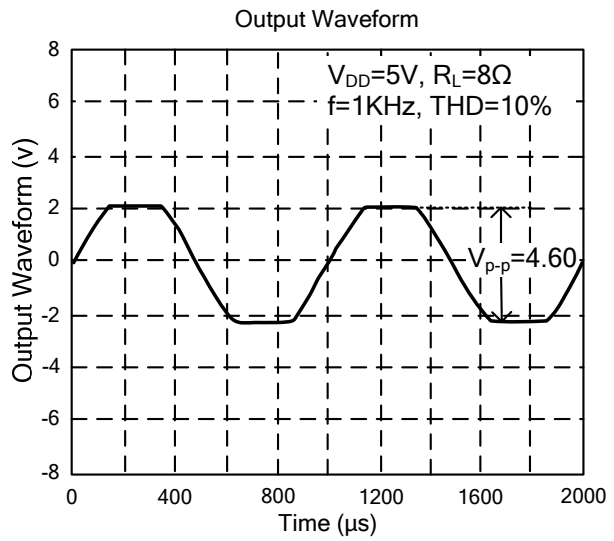
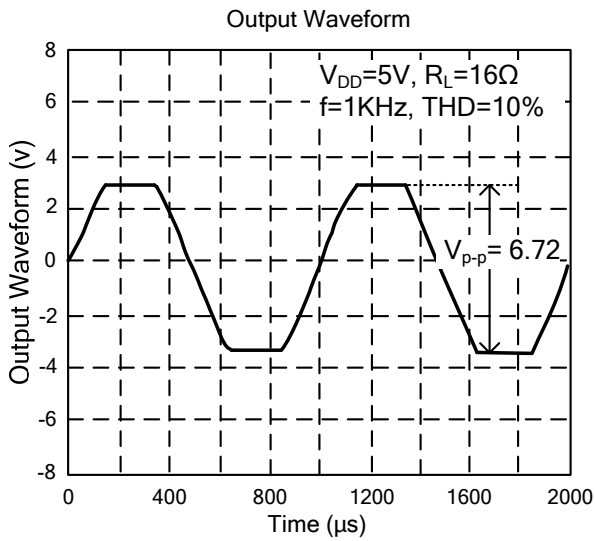
■ BLOCK DIAGRAM



■ TYPICAL APPLICATION CIRCUIT



■ TYPICAL CHARACTERISTICS



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