



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_{RMS} of output power per channel into 16Ω loads with less than 10% THD+N and also delivering 300mW_{RMS} 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.

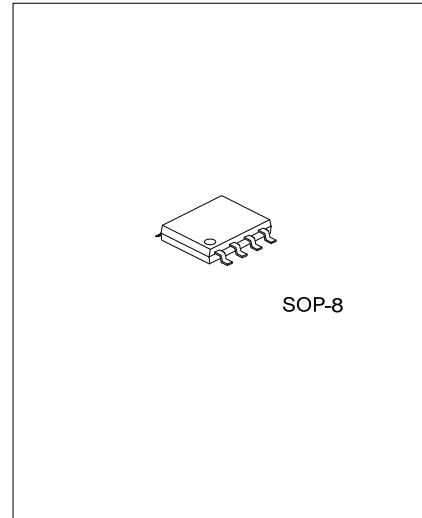
FEATURES

- * Output power at 10% THD+N
Supply voltage:5V
Delivering 350mW_{RMS} into a 16Ω load
Delivering 300mW_{RMS} into a 8Ω load
- * With shutdown mode
- * Stable unity-gain.

ORDERING INFORMATION

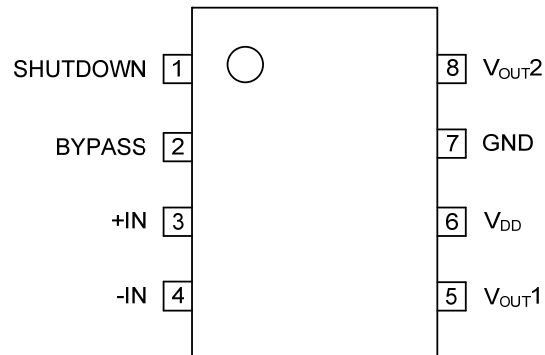
Ordering Number			Package	Packing
Normal	Lead Free	Halogen Free		
PA4819-S08-R	PA4819L-S08-R	PA4819G-S08-R	SOP-8	Tape Reel
PA4819-S08-T	PA4819L-S08-T	PA4819G-S08-T	SOP-8	Tube

<p>PA4819L-S08-R</p>	<p>(1) Packing Type (1) R: Tape Reel, T: Tube</p> <p>(2) Package Type (2) S08: SOP-8</p> <p>(3) Lead Plating (3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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Lead-free: PA4819L
Halogen-free: PA4819G

■ 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 _{OUT1}	O	Output pin1
6	V _{DD}		Supply voltage
7	GND		GND
8	V _{OUT2}	O	Output pin2

■ ABSOLUTE MAXIMUM RATING

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

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.

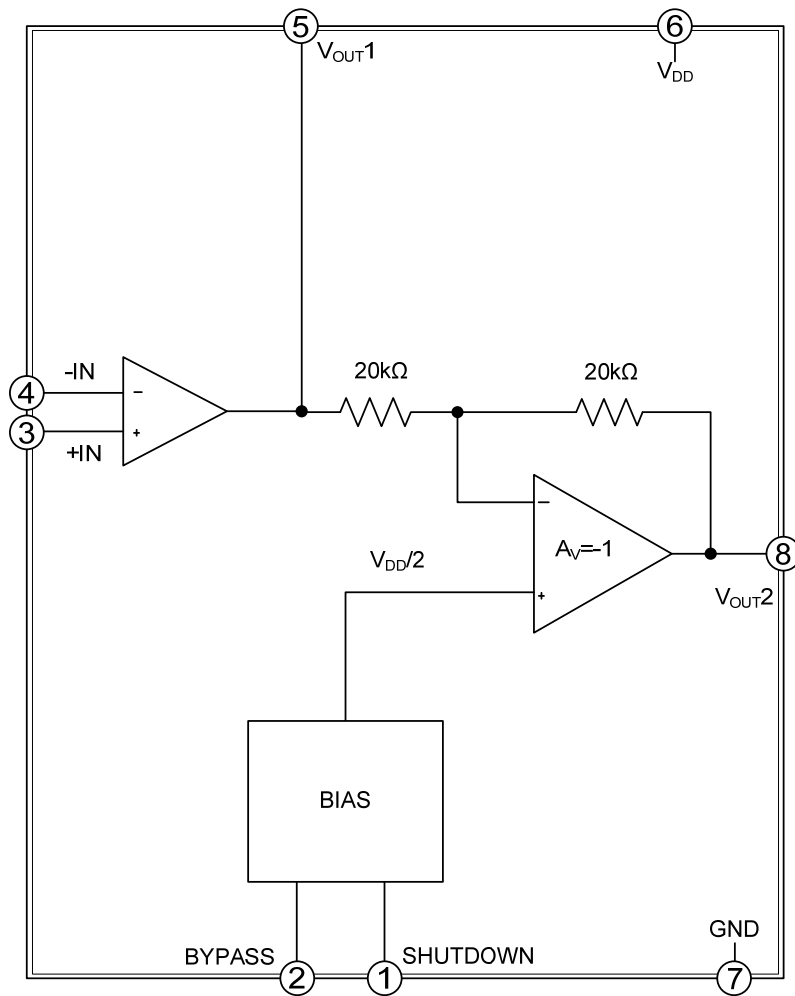
■ THERMAL DATA

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient	θ_{JA}			170	$^{\circ}\text{C}/\text{W}$
Junction to Case	θ_{JC}			35	$^{\circ}\text{C}/\text{W}$

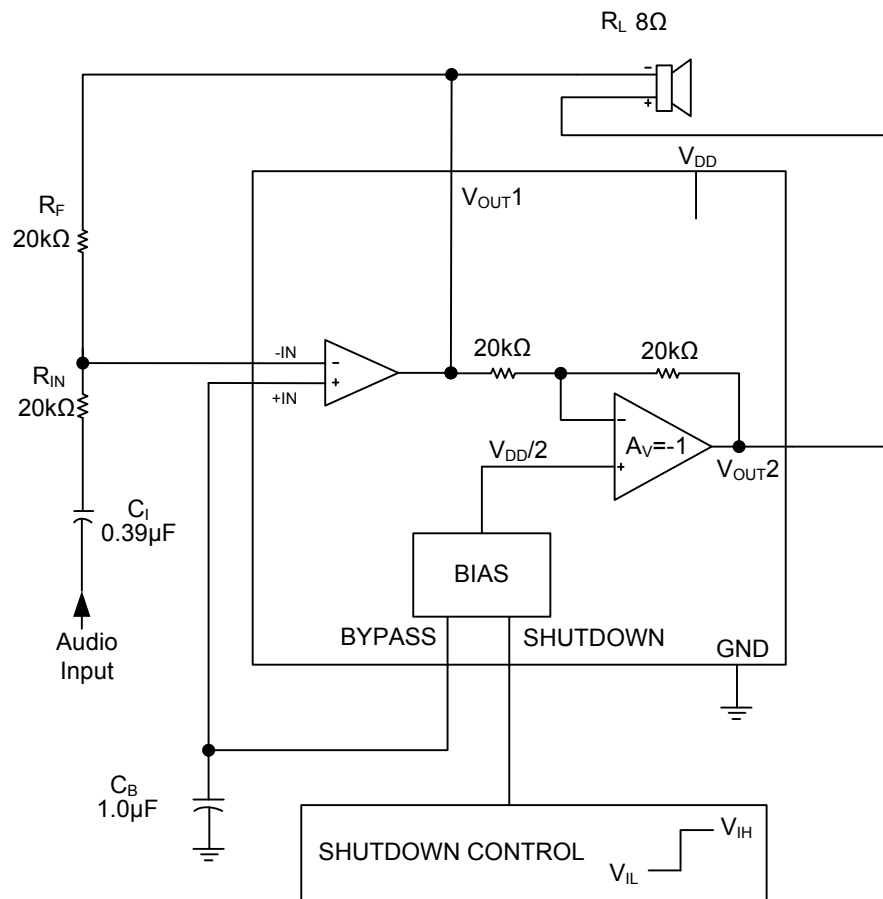
■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, $R_L=16\Omega$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
FOR $V_{DD}=3\text{V}$						
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	$V_{IN}=0\text{V}, I_{OUT}=0\text{A}$ $V_{PIN1}=V_{DD}$		1.0	3.0	mA
	Shutdown Mode					
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
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=80\text{mW}_{RMS}$, $f_{IN}=1\text{kHz}$, $G=2\text{V}/\text{V}$		1		%
FOR $V_{DD}=5\text{V}$						
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	$V_{IN}=0\text{V}, I_{OUT}=0\text{A}$ $V_{PIN1}=V_{DD}$		1.5	3.0	mA
	Shutdown Mode					
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
Total Harmonic Distortion+Noise	THD+N	$P_{OUT}=270\text{mW}_{RMS}$, $f_{IN}=1\text{kHz}$, $G=2\text{V}/\text{V}$		1		%

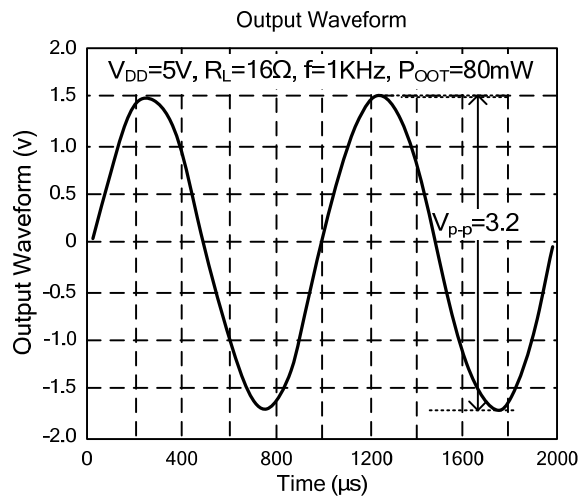
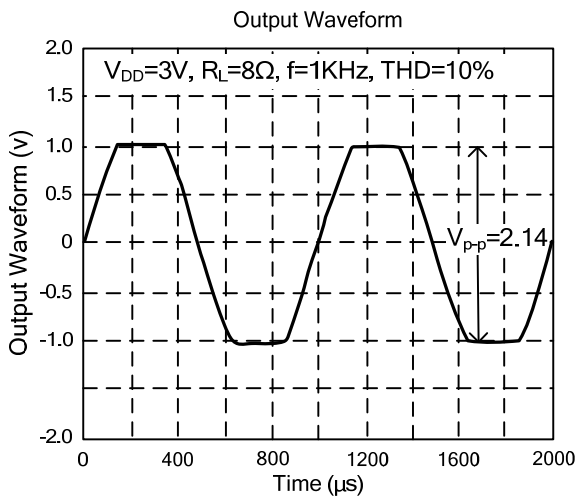
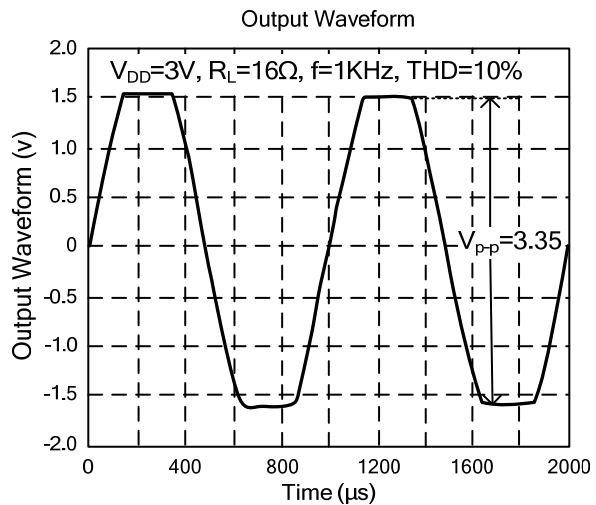
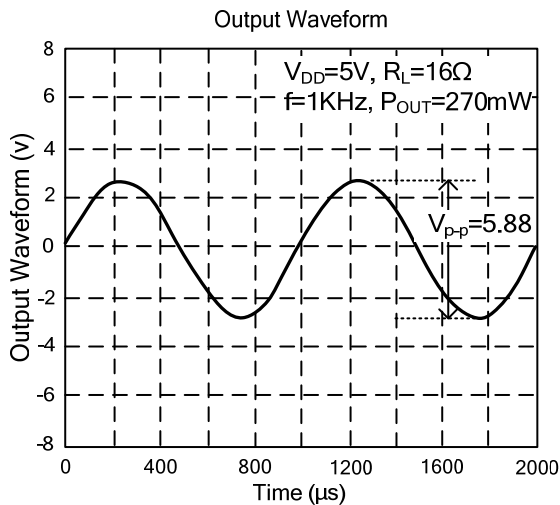
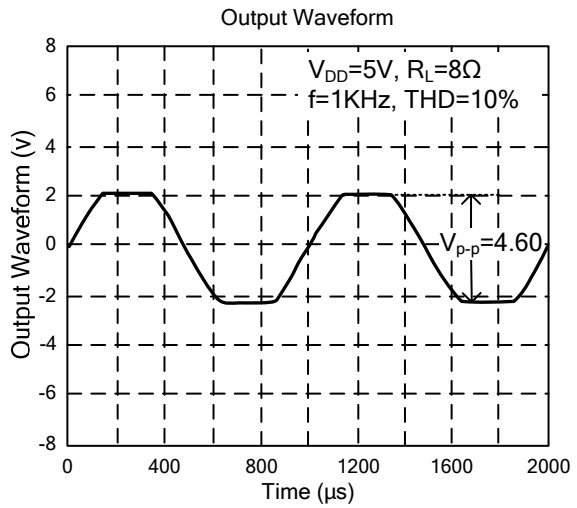
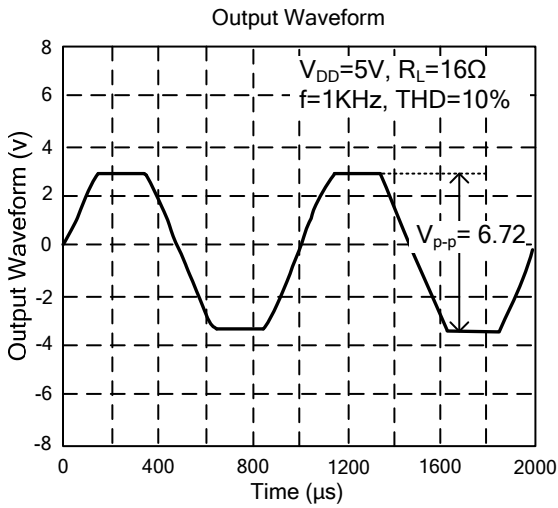
■ BLOCK DIAGRAM



■ TYPICAL APPLICATION CIRCUIT



■ TYPICAL CHARACTERISTICS



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