



PA2308

LINEAR INTEGRATED CIRCUIT

CLASS AB STEREO HEADPHONE DRIVER

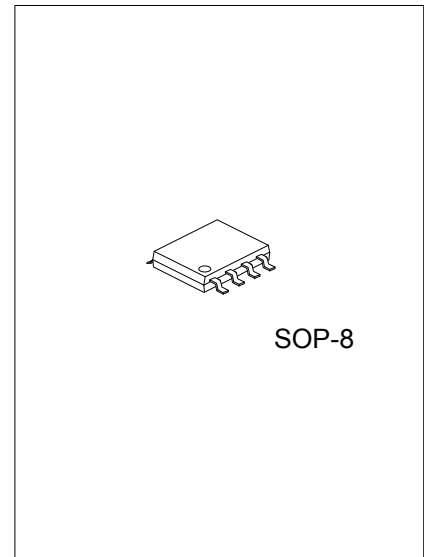
DESCRIPTION

As operating on a single 5V supply, the UTC PA2308 is capable of delivering 280mW of max. Output power to an 8Ω load or 110mW to a 32Ω load with less than 10% (THD+N).

The device is very suitable for portable digital audio application.

FEATURES

- * Output power less than 10% THD+N, $V_{DD}=5V(TYP)$
 - 280mW/CH (typical) into a 8Ω load
 - 110mW/CH (typical) into a 32Ω load
- *Very High signal-to-noise ratio
- *Large output voltage swing
- *Good power supply ripple rejection
- *Low power consumption and Low distortion
- *Fix wide temperature range
- *Without switch ON/OFF clicks



SOP-8

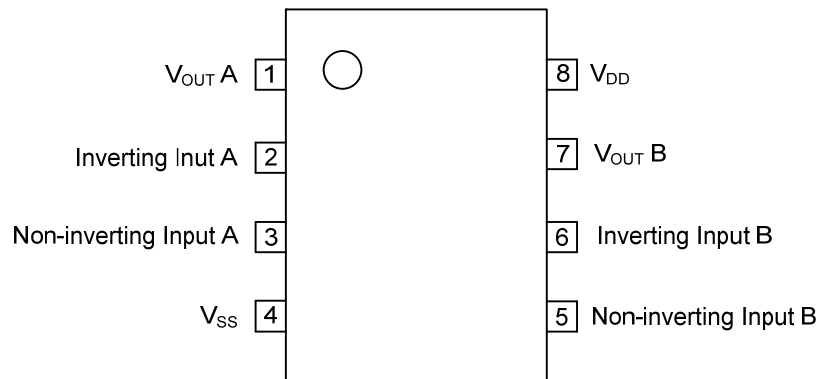
Lead-free: PA2308L
Halogen-free: PA2308G

ORDERING INFORMATION

	Ordering Number			Package	Packing
	Normal	Lead Free Plating	Halogen Free		
PA2308-S08-R	PA2308L-S08-R	PA2308G-S08-R	SOP-8	Tape Reel	
PA2308-S08-T	PA2308L-S08-T	PA2308G-S08-T	SOP-8	Tube	

<p>PA2308L-S08-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube (2) S08: SOP-8 (3) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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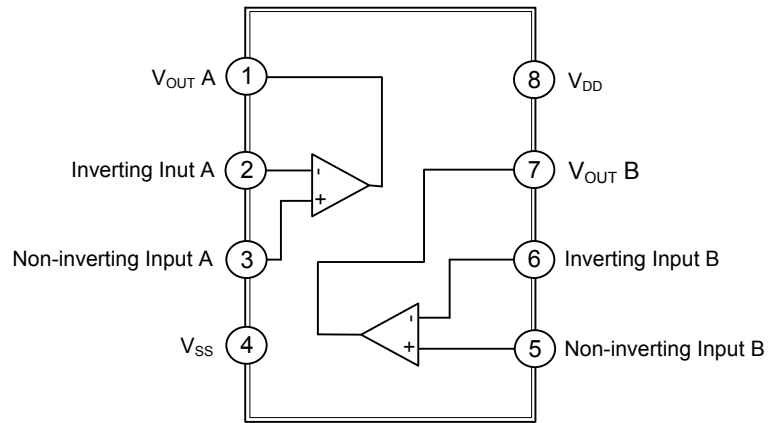
■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	I/O	PIN DESCRIPTION
1	V _{OUT A}	O	Channel A output pin
2	Inverting Input A	I	Inverting input for channel A
3	Non- Inverting Input A	I	Non-inverting input for channel A
4	V _{SS}		Ground
5	Non- Inverting Input B	I	Non-inverting input for channel B
6	Inverting Input B	I	Inverting input for channel B
7	V _{OUT B}	O	Channel B output pin
8	V _{DD}	I	Supply voltage input pin

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{DD}	7	V
Junction Temperature	T _J	150	°C
Operating Temperature	T _{OPR}	-40 to 85	°C
Storage Temperature	T _{STG}	-65 to +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	θ _{JA}		210		K/W

■ ELECTRICAL CHARACTERISTICS (T_a=25°C; unless otherwise specified)

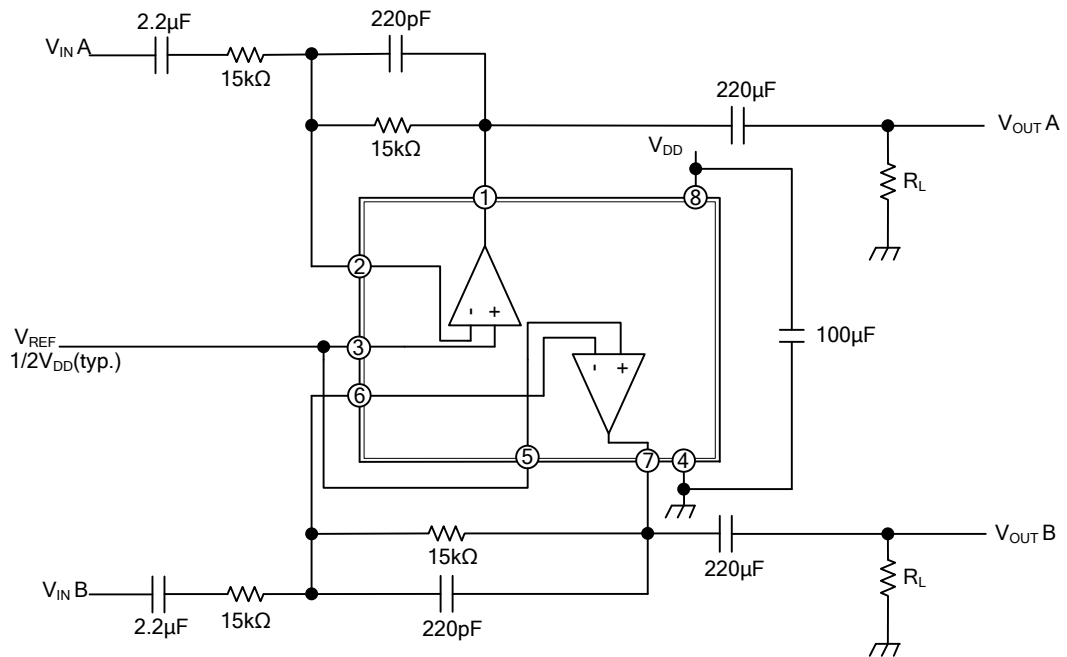
V_{DD}=5V, V_{SS}=0V, f=1kHz, R_L=32Ω

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT	
SUPPLY							
Supply Voltage	Single	V _{DD}		3.0	5.0	6.0	V
	Dual			±1.5	±2.5	±3.0	
Negative Supply Voltage	V _{SS}		-1.5	-2.5	-3.0	V	
Supply Current	I _{DD}	No Load		2.5	5	mA	
Total Power Dissipation	P _D	No Load		12.5	25	mW	
DC CHARACTERISTICS							
Input Offset Voltage	V _{IN(OFF)}			5		mV	
Input Bias Current	I _{BIAS}			10		pA	
Common Mode Voltage	V _{CM}		0		3.5	V	
Closed Loop Voltage Gain	G _V	R _L =5kΩ		75		dB	
Max. Output Current	I _{OUT}	(THD+N)/S<0.1%		140		mA	
Output Resistance	R _O			0.25		Ω	
AC CHARACTERISTICS							
Output Voltage Swing	V _{OUT}	R _L =32Ω(Note 1)	0.25		4.75	V	
		R _L =16Ω(Note 1)	0.5		4.5		
Power Supply Rejection Ratio	PSRR	f _{IN} =100Hz, V _{RIPPLE(P-P)} =100mV		65		dB	
Channel Separation	α _{CS}	R _L =32Ω		95		dB	
Load Capacitance	C _L				200	pF	
Total Harmonic Distortion Plus Noise to Signal Ratio	(THD+N)/S	R _L =32Ω(Note 2)		-65	-60	dB	
				0.05	0.1	%	
Signal to Noise Ratio	S/N		90	100		dB	
Unity Gain Frequency	FG	R _L =5kΩ		5		MHz	
Max. Output Power	P _{OUT}	(THD+N)/S<0.1%		84		mW	
Input Capacitance	C _I			3		PF	
Power Bandwidth	B	Unity Gain Inverting		20		kHz	

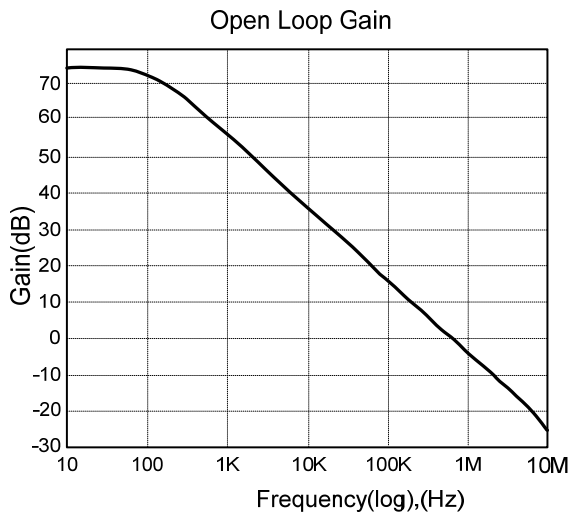
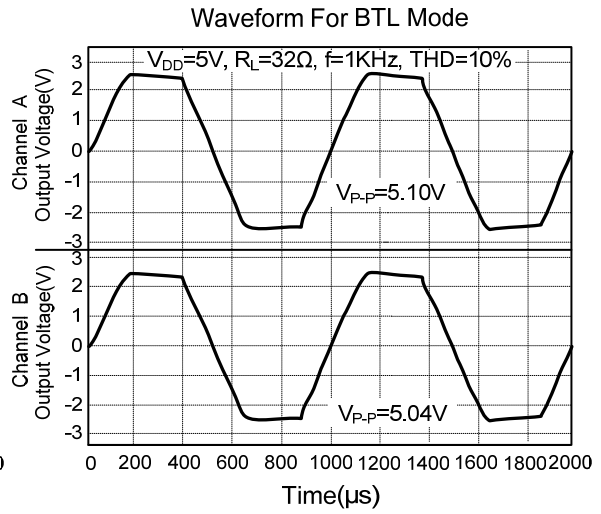
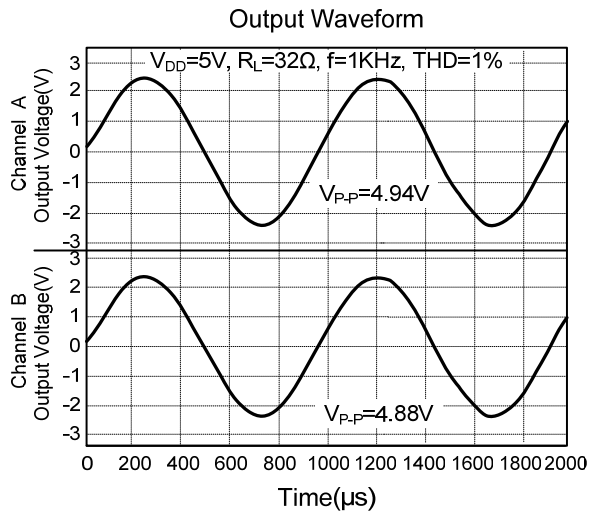
Note: 1. Values are proportional to V_{DD}; (THD+N)/S<0.1%

2. V_{DD}=5V; V_{OUT(P-P)}=3.5V(at 0dB)

■ TYPICAL APPLICATION



■ TYPICAL CHARACTERISTICS



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