
Dual 105mW Headphone Amplifier

Features

- SOP surface mount packaging
- Switch on/off click suppression
- Excellent power supply ripple rejection
- Unity-gain stable
- Minimum external components

Applications

- Headphone Amplifier
- Personal Computers
- Portable electronic devices

Description

The CO4808 is a dual audio power amplifier capable of delivering 105mW per channel of continuous average power into a 16 Ω load with 0.1% (THD+N) from a 5V power supply.

Boomer audio power amplifiers were designed specifically to provide high quality output power with a minimal amount of external components using surface mount packaging. Since the CO4808 does not require bootstrap capacitors or snubber networks, it is optimally suited for low-power portable systems.

The unity-gain stable CO4808 can be configured by external gain-setting resistors.

Key Specifications

- THD+N at 1kHz at 105mW continuous average output power into 16 Ω 0.1% (typ)
- THD+N at 1kHz at 70mW continuous average output power into 32 Ω 0.1% (typ)
- Output power at 0.1% THD+N at 1kHz into 32 Ω 70mW (typ)

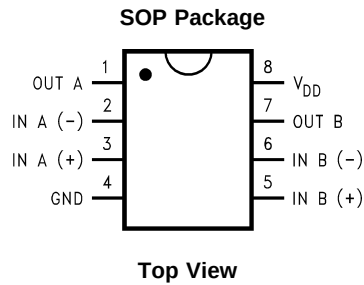
Ordering Information

CO4808 X
└─ Blank: Sop-8 & Tube
 A: Sop-8 & Taping

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Connection Diagrams



Typical Application

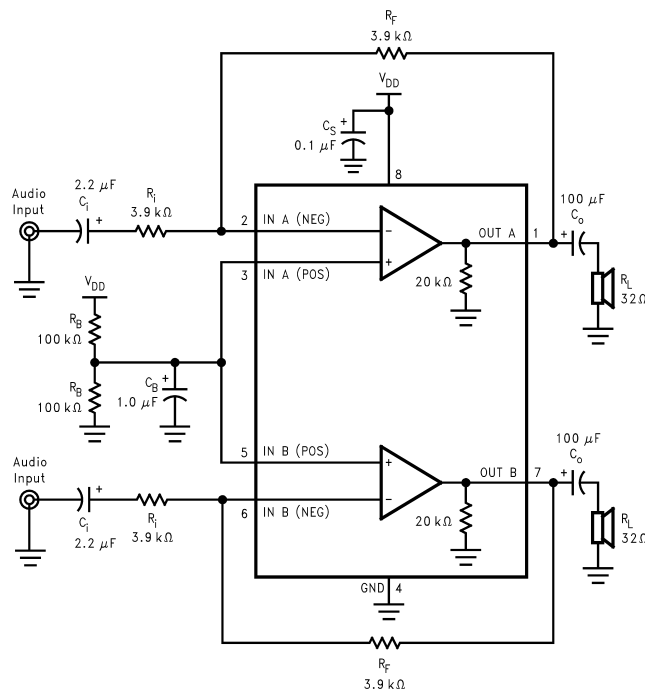


FIGURE 1. Typical Audio Amplifier Application Circuit

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Electrical Character

V_{DD}=5V, Temp=25°C, F_{in}=1KHz, R_L=32Ω, V_{in}=1.4V

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _{DD}	Supply Voltage		2.0		5.5	V
I _{DD}	Supply Current	V _{IN} =0V, I _O =0A		1.2	3.0	mA
P _{tot}	Total Power Dissipation	V _{IN} =0V, I _O =0A		6	16.5	mW
V _{OS}	Input Offset Voltage	V _{IN} =0V		10	50	mV
I _{bias}	Input Bias Current			10		pA
V _{CM}	Common Mode Voltage			0		V
				4.3		
G _V	Open-Loop Voltage Gain	R _L =5KΩ		67		dB
I _O	Max Output Current	THD+N<0.1%		70		mA
R _O	Output Resistance			0.1		Ω
V _O	Output Swing	R _L =32Ω, 0.1% THD+N, Min		3		V
		R _L =32Ω, 0.1% THD+N, Max		4.7		
PSRR	Power Supply Rejection Ratio	C _b =1.0 μF, V _{ripple} =100mVpp, f=100Hz		89		dB
Crosstalk	Channel Separation	R _L =32Ω		75		dB
THD+N	Total Harmonic Distortion + Noise	f=1kHz				
		R _L =16Ω		0.05		%
		V _O =3.5Vpp (at 0dB)		66		dB
		R _L =32Ω		0.05		%
SNR	Signal-to-Noise Ratio	V _O =3.5Vpp (at 0dB)		105		dB
f _G	Unity Gain Frequency	Open Loop, R _L =5kΩ		5.5		MHz
P _O	Output Power	THD+N=0.1%, f=1kHz				
		R _L =16Ω		105		mW
		R _L =32Ω		70	60	mW
		THD+N=10%, f=1kHz				
		R _L =16Ω		150		mW
		R _L =32Ω		90		mW
C _I	Input Capacitance			3		pF
C _L	Load Capacitance				200	pF
SR	Slew Rate	Unity Gain Inverting		3		V/μs

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1F-5 NO.66 SEC.2 NAN-KAN RD., LUCHU, TAOYUAN, TAIWAN

Tel: 886-3-3214525

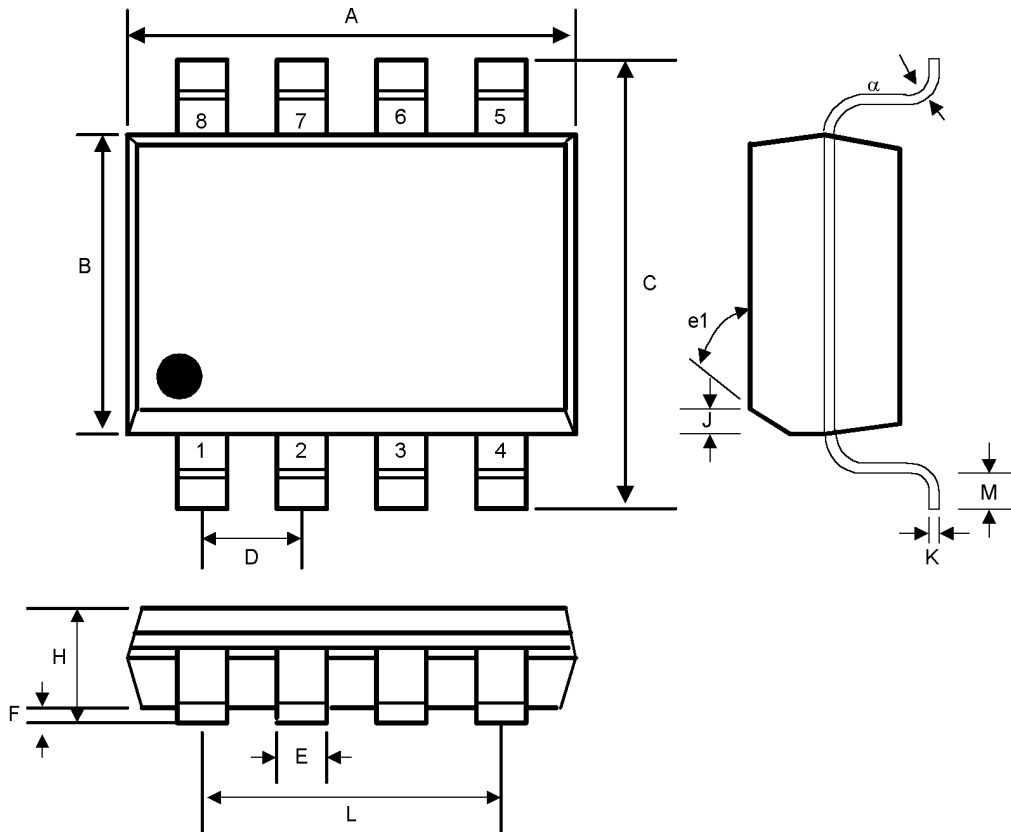
Fax: 886-3-3521052

Email: server@ceramate.com.tw

Http: www.ceramate.com.tw

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Small Outline SOP-8



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.188	0.197	4.80	5.00	-
B	0.149	0.158	3.80	4.00	-
C	0.228	0.244	5.80	6.20	-
D	0.050 BSC		1.27 BSC		-
E	0.013	0.020	0.33	0.51	-
F	0.004	0.010	0.10	0.25	-
H	0.053	0.069	1.35	1.75	-
J	0.011	0.019	0.28	0.48	-
K	0.007	0.010	0.19	0.25	-
M	0.016	0.050	0.40	1.27	-
L	0.150 REF		3.81 REF		-
e1	45°		45°		-
alpha	0°	8°	0°	8°	-

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