



PAM8124-EV Board User Guide

1. Revision Information

[illegible]

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2. PAM8124 General Description

The PAM8124 is a 15W efficient, Class-D audio power amplifier for driving stereo speakers in a single-ended configuration; or a mono speaker in a bridge-tied-load configuration. The PAM8124 can drive stereo speakers (SE) as low as $4\ \Omega$. Due to the low power dissipation and high efficiency the device can be used without any external heat sink when playing music.

The gain of the amplifier is controlled by 2 gain selectable pins, offering 20dB, 26dB, 32dB, and 36dB gain selections.

The PAM8124 is available in a TSSOP-24 package.

3. Key Features

- ◆ 30W/Ch into $8\ \Omega$ BTL Load from 22V Supply
- ◆ 15W/Ch into $4\ \Omega$ SE Load from 22V Supply
- ◆ 10W/Ch into $8\ \Omega$ SE Load from 24V Supply
- ◆ Operate from 10V to 26V
- ◆ Single-Ended Analog Inputs
- ◆ Supports Multiple Output Configurations:
 - 2-Ch Single-Ended (SE, Half-Bridge)
 - 1-Ch Bridge-Tied Load (BTL, Full-Bridge)
- ◆ Four Selectable Fixed-gain Settings
- ◆ No Pop Noise for Start-up and Shut-down Sequences
- ◆ Internal Oscillator (No External Components Required)
- ◆ High Efficient Class-D Operation Eliminates Need for Heat Sinks
- ◆ Thermal and Short-Circuit Protection with Auto Recovery

4. EV Board Schematic

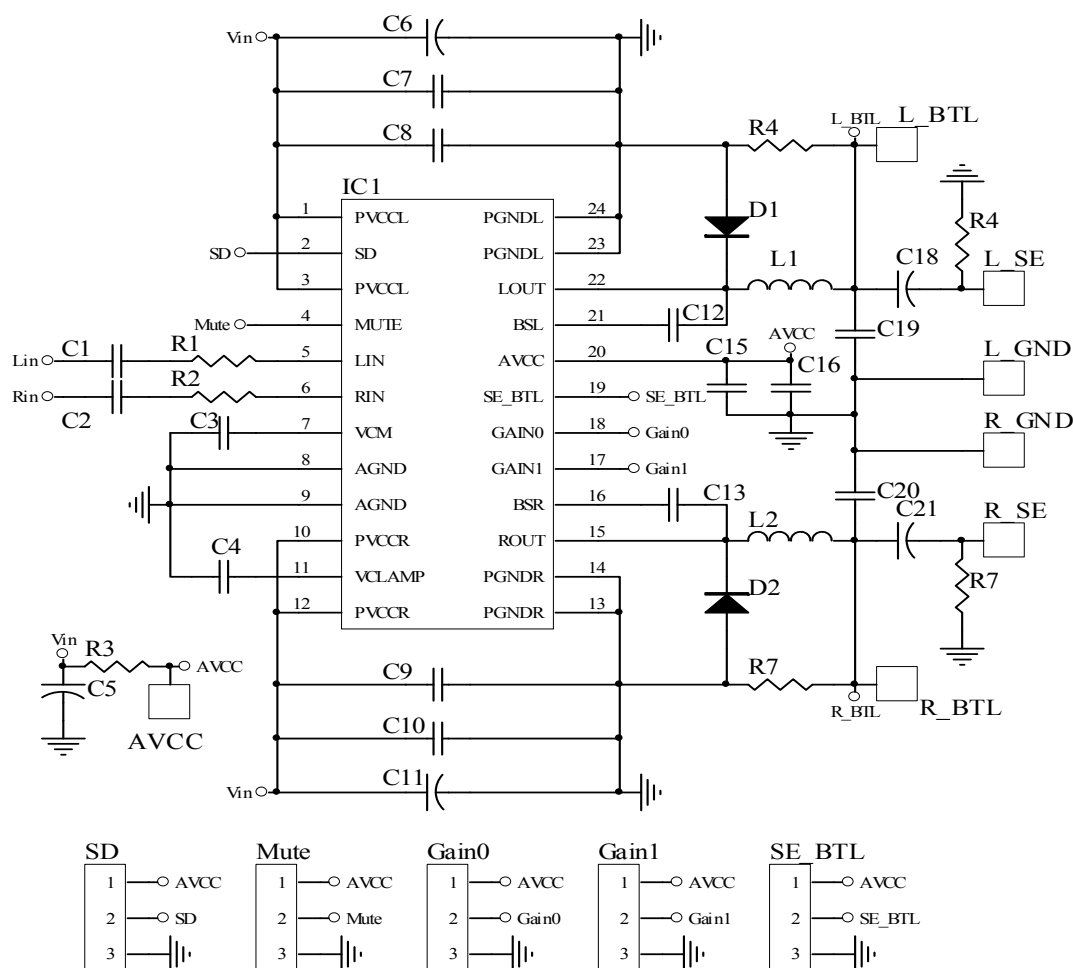


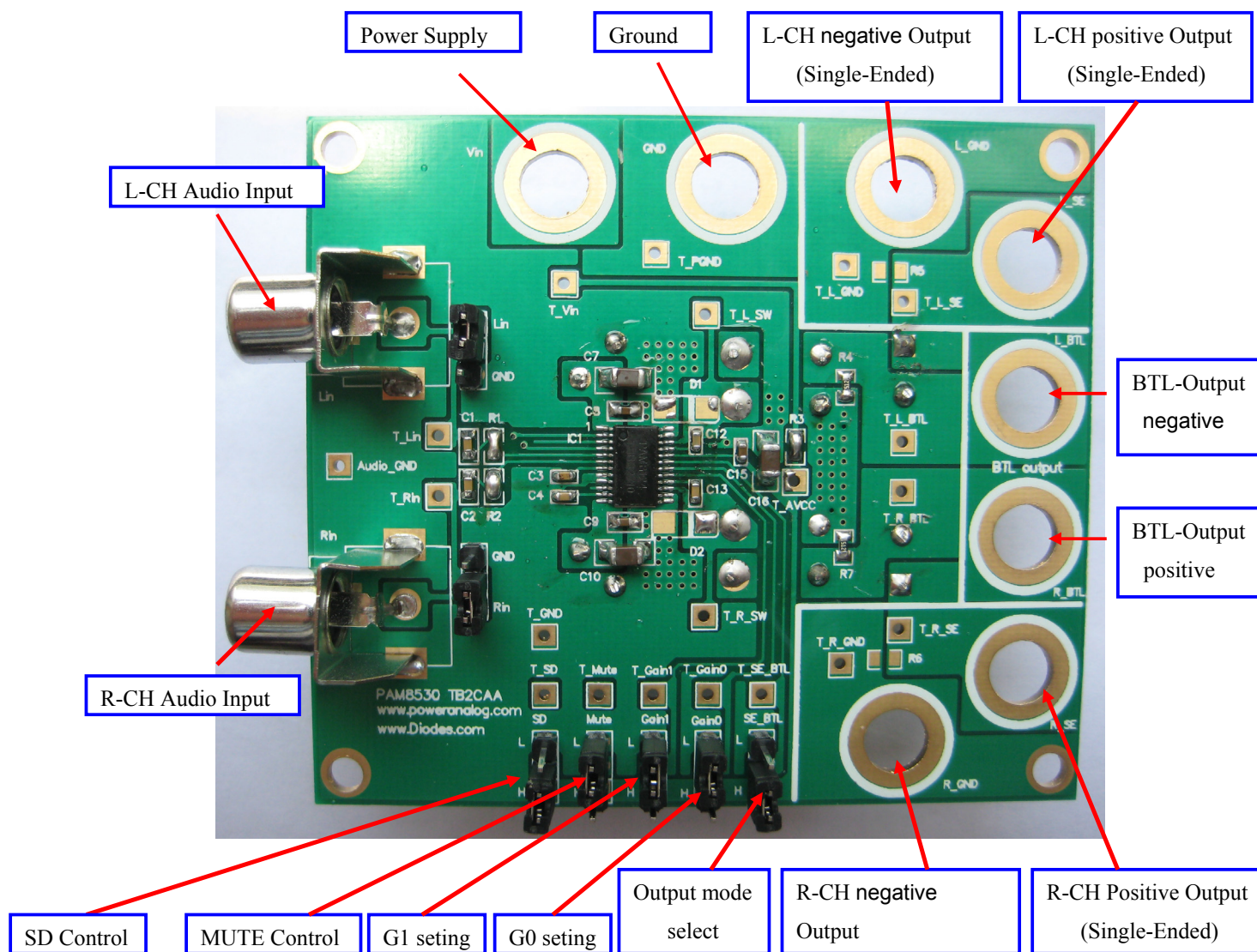
Figure 1

5. PAM8124 TB24AA EVB Description

PAM8124 TB24AA is an evaluation board for the PAM8124, a stereo class-D audio power amplifier. The board is targeted to be used in providing a simple and convenient evaluation environment for the PAM8124. Requires parts, the audio inputs, pin jacks for power supply and signal outputs etc. on the board make it easy to be evaluated.

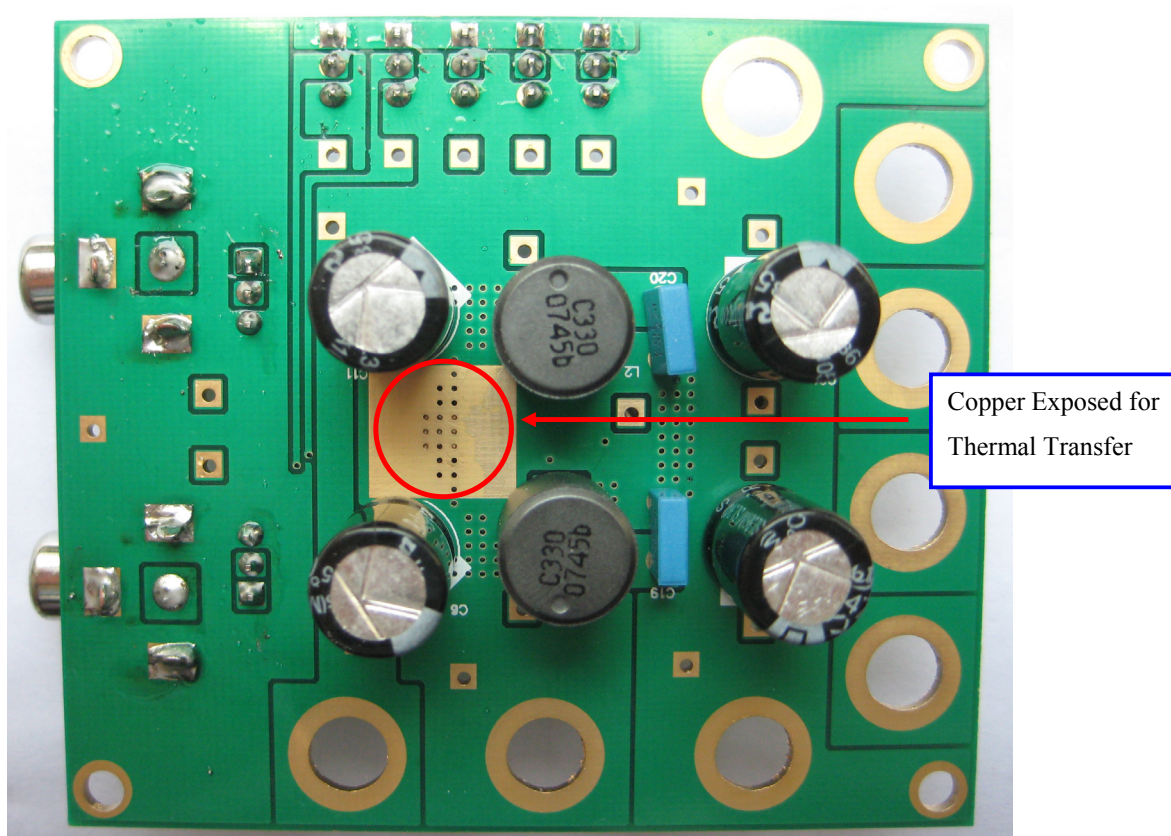
6. EV Board View and Jack Description

Top Layer



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Bottom Layer



EV board operational sequence:

- Connect SD to a high and MUTE to a low for normal operation
- Connect audio input from audio input jack
- Connect the loading(speaker or power resistor) to the output jack
- Power on: DC power supply

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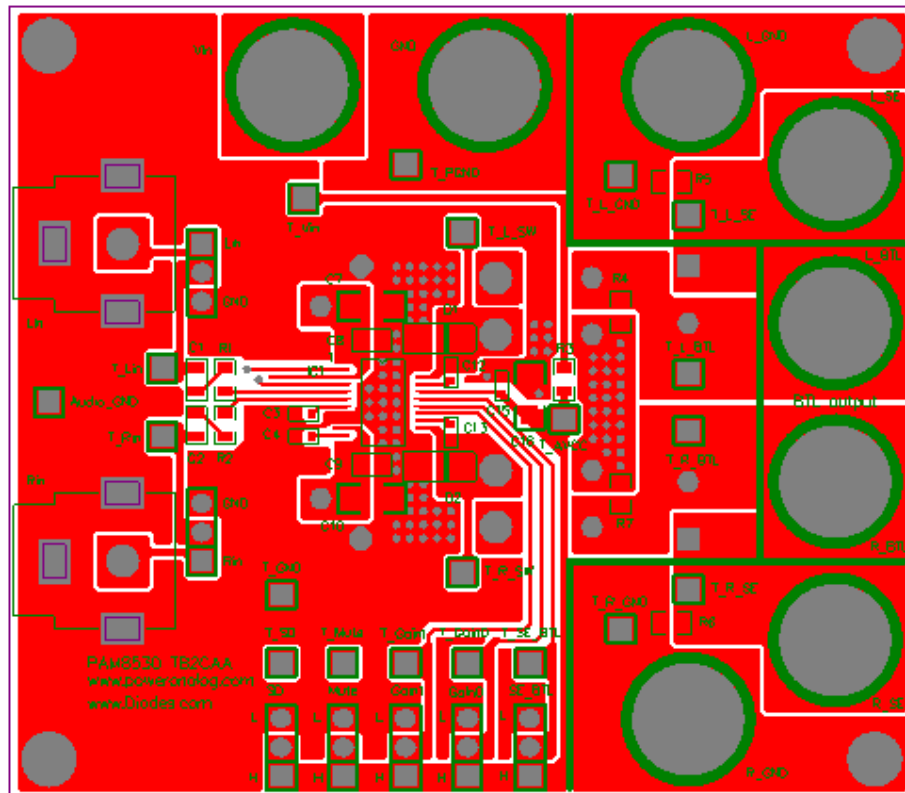
7. EV Board BOM List

Item	Value	Type	Rating	Description	Vender and port
C1,C2	1uF	X5R/X7R, Ceramic/0603	25V	Input coupling CAP	TMK107B7105KA-T
C3	1uF	X5R/X7R, Ceramic/0603	25V	VCM coupling CAP	TMK107B7105KA-T
C12,C13	1uF	X5R/X7R, Ceramic/0603	25V	High side driver bootstrap CAP	TMK107B7105KA-T
C8, C9	0.1uF	X5R/X7R, Ceramic/0603	35V	PVDD coupling CAP,	GMK105BJ104KV-F
C7,C10	10uF	X5R/X7R, Ceramic/1210	35V	PVDD main coupling CAP,	GMK325BJ106MN-T
C15	0.1uF	X5R/X7R, Ceramic/0603	35V	AVCC coupling CAP	GMK105BJ104KV-F
C16	10uF	X5R/X7R, Ceramic/1210	35V	AVCC main coupling CAP	GMK325BJ106MN-T
C4	1uF	X5R/X7R, Ceramic/0603	25V	Vclamp coupling CAP	TMK107B7105KA-T
R1,R2,	0	0603		Input Resistor	
C6,C11,	470uF	Electrolytic	35V	Power supply decoupling CAP	
C18,C21,	470uF	Electrolytic	35V	Output CAP	
L1,L2	33uH	1.83A		Output inductance	TOKO A7503CY-330M
R3	0Ω	0603	5%	Separate AVCC from PVDD	
R4,R7,	4.7K	0603		Discharge resistance	
IC1	PAM8124				PAM

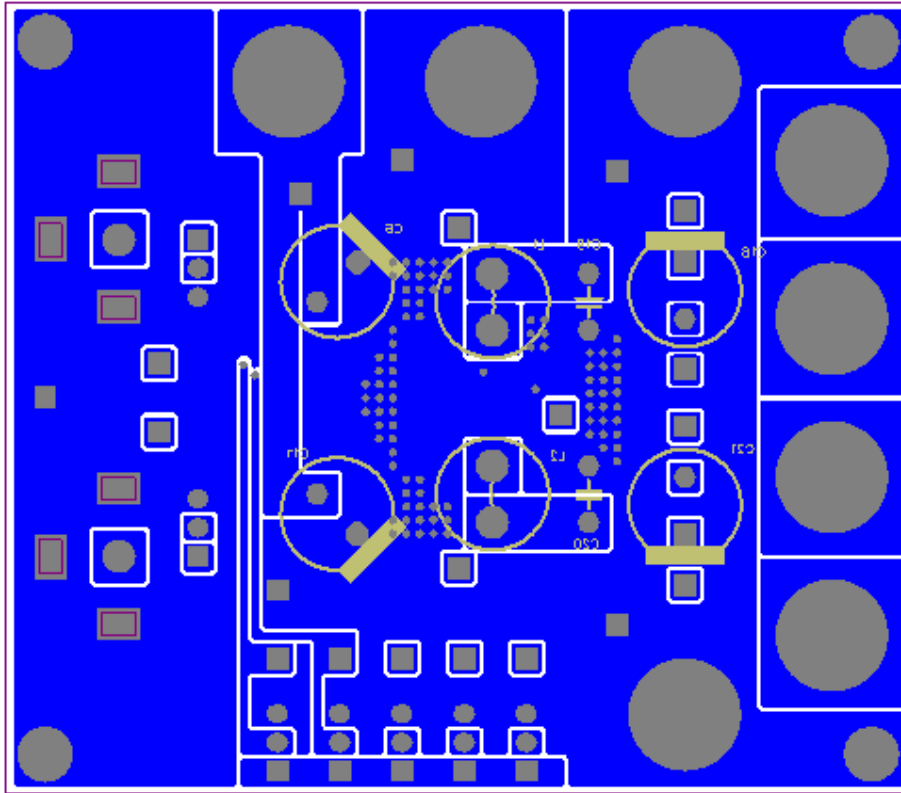
8. PCB Layout Example

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