RB-TA2024-01

CLASS-T DIGITAL AUDIO AMPLIFIER MINI REFERENCE BOARD USING DIGITAL POWER PROCESSING™ TECHNOLOGY

Technical Information **Revision - Date**

Introduction

Measuring only 1.2" x 1.6," the Mini TA2024 (RB-TA2024-01) was created to provide the systems designer with a minimal footprint reference for use in space-constrained applications of the TA2024 2x15W high efficiency amplifier. The board is a complete TA2024 2x15W circuit, ready to evaluate. It needs only power, signal and passive speakers to be up and running.

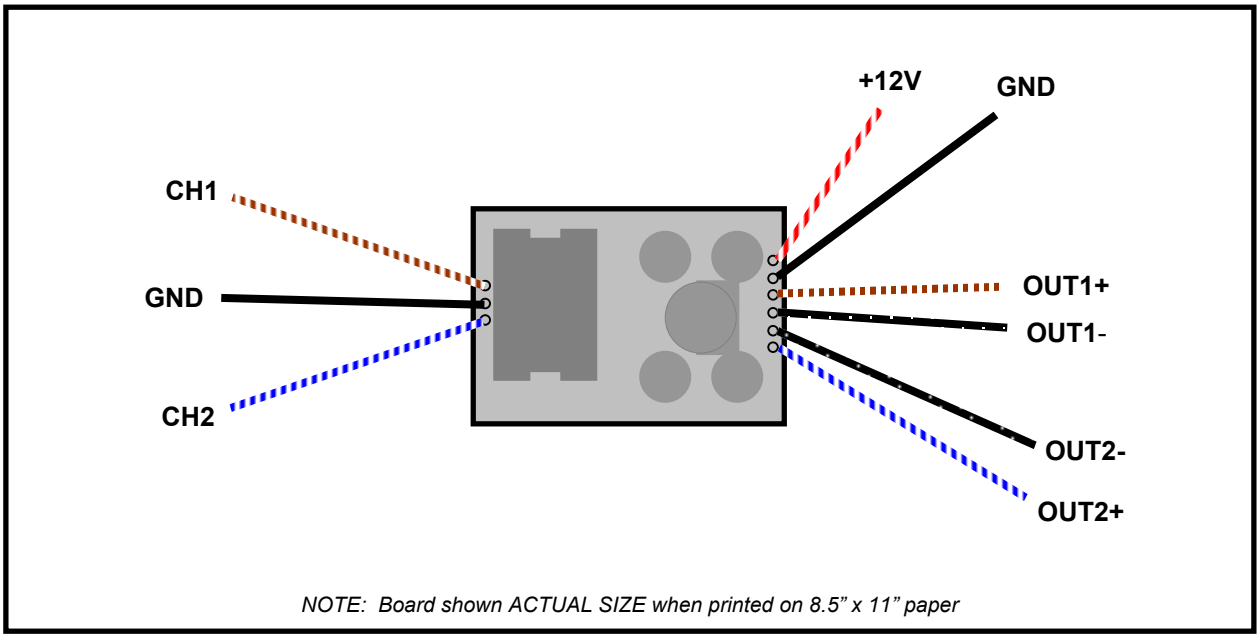
Connection and Operation

Below is a simple diagram showing the input and output connection requirements of the RB-TA2024-01. The +12V supply must not exceed 13.2V at any time, or damage to the device may occur. A low level stereo signal source, such as a portable MP3 or CD player can be used for the input, while normal passive bookshelf or home theater speakers (4 ohms minimum) can be used for the outputs.

Application Information

When playing music, lower output power levels can be sustained indefinitely, while higher levels can be played for only a limited time due to the small size of the copper area of the pc board. The TA2024 is extremely efficient, approaching 90% with an 8Ω load; however, the dissipated power inside the TA2024, though relatively small, still generates heat. This heat conducts through the TA2024's heat slug and onto the pc board area to which the heat slug is soldered. In final end applications, the TA2024 and its associated components will be part of a larger system design where more heat sinking area will be available, via multi layers or larger ground plane, or both. Please consult the TA2024 datasheet for more information on power dissipation requirements.

Warning:
The intended purpose of the RB-TA2024-01 is to show a minimum footprint application for TA2024 and its associated components. Though it is a fully functional design, it is NOT intended to be used as a standalone amplifier product. For final product application, please consult the Power Dissipation section in the TA2024 datasheet for necessary thermal requirements.



NOTE: Board shown ACTUAL SIZE when printed on 8.5" x 11" paper

Contact Information

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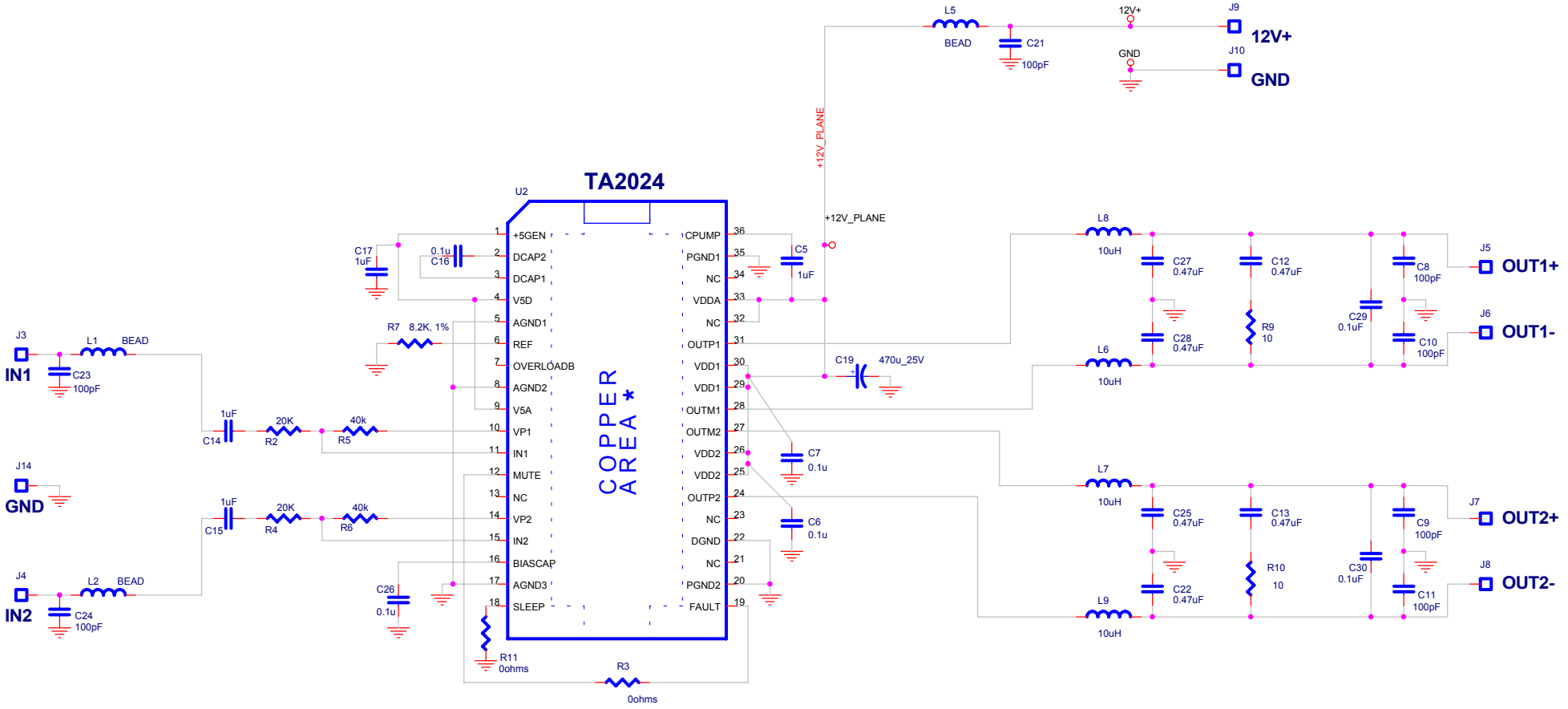

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Title: TA2024 MINI		
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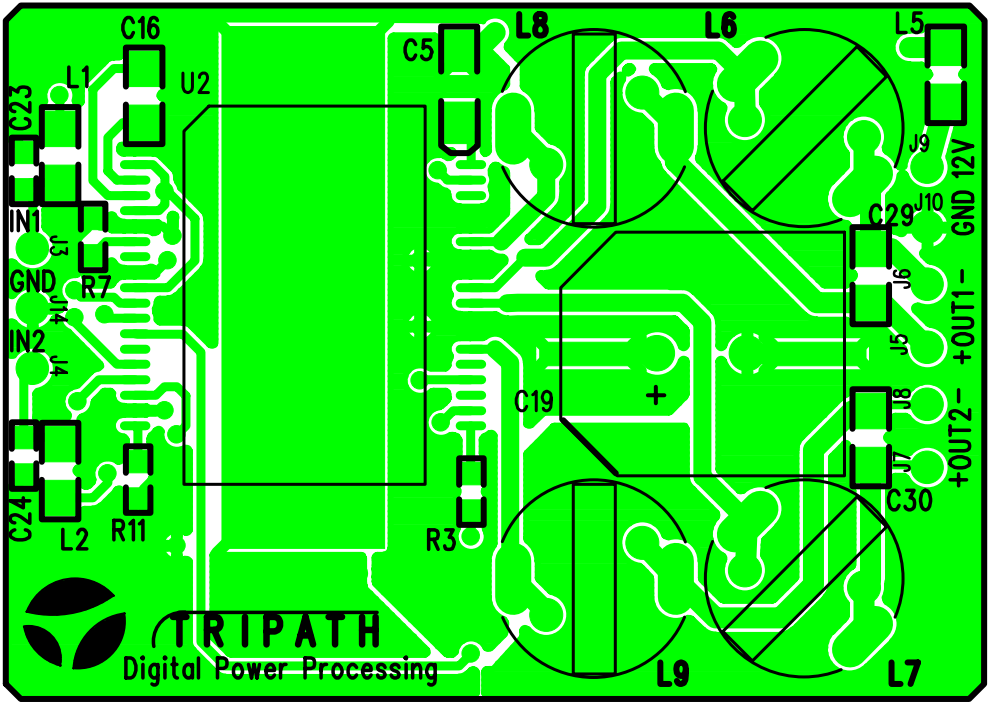
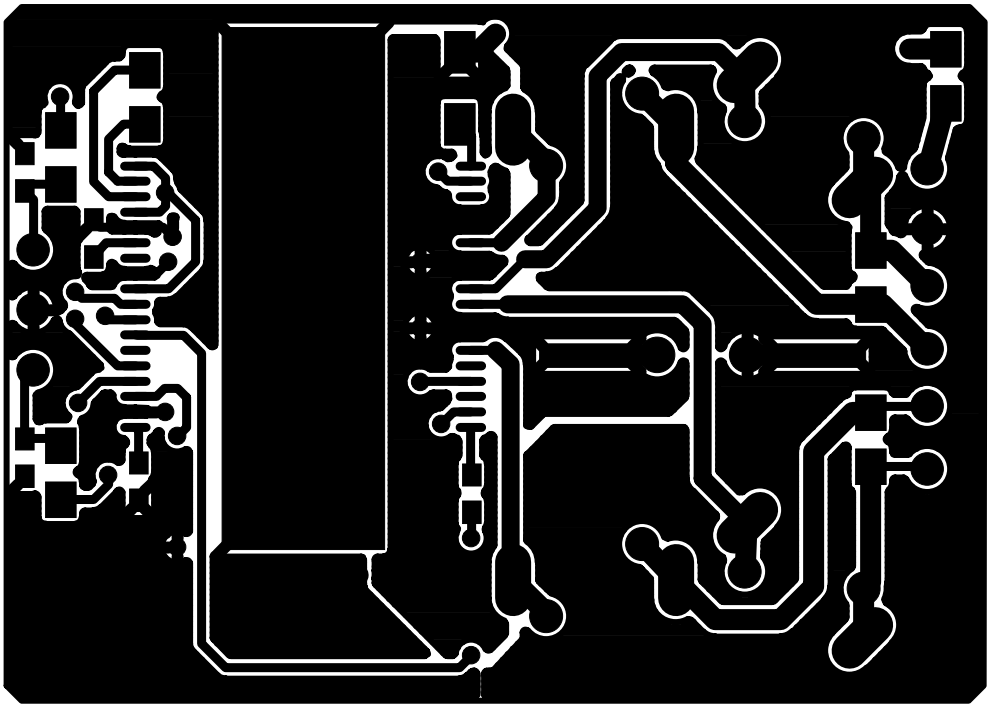
TA2024 MINI Bill of Materials

Item	Quantity	Reference	Part
1	2	C17,C5	1uF
2	4	C6,C7,C16,C26	0.1u
3	7	C8,C9,C10,C11,C21,C23, C24	100pF
4	6	C12,C13,C22,C25,C27,C28	0.47uF
5	2	C14,C15	1uF
6	1	C19	470u_25V
7	2	C30,C29	0.1uF
8	3	L1,L2,L5	BEAD
9	4	L6,L7,L8,L9	10uH, 2A
10	2	R4,R2	20K
11	2	R11,R3	0ohms
12	2	R6,R5	40k
13	1	R7	8.2K, 1%
14	2	R10,R9	10, 1/8W
15	1	U2	TA2024

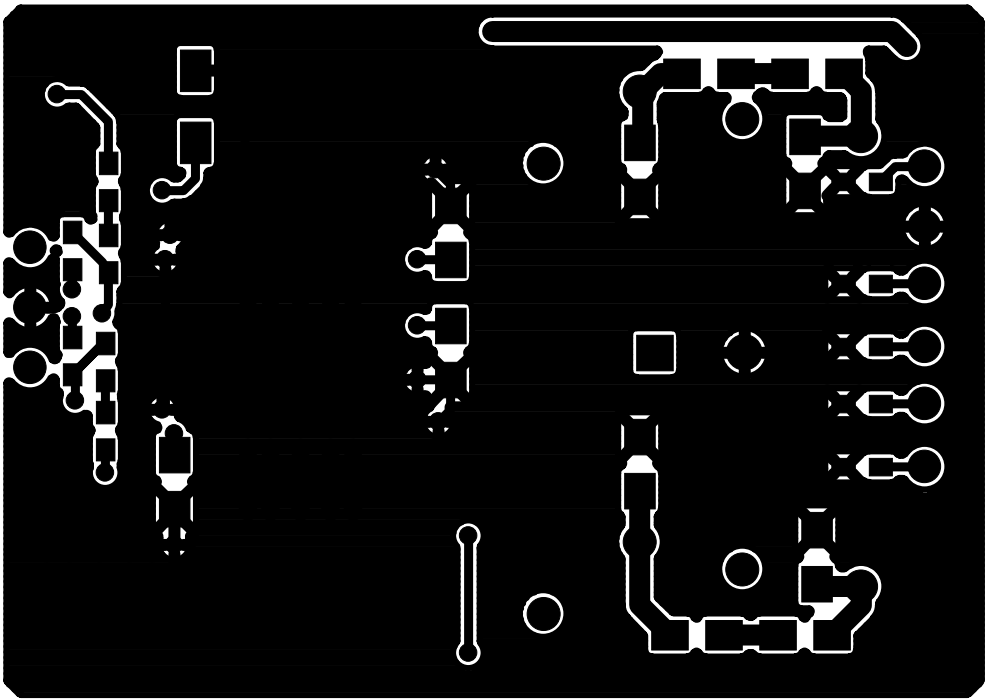


VIEWED FROM COMPONENT SIDE
SILKSCREEN TOP

VIEWED FROM COMPONENT SIDE



VIEWED FROM COMPONENT SIDE
TOP ETCH



VIEWED FROM COMPONENT SIDE

BOTTOM ETCH