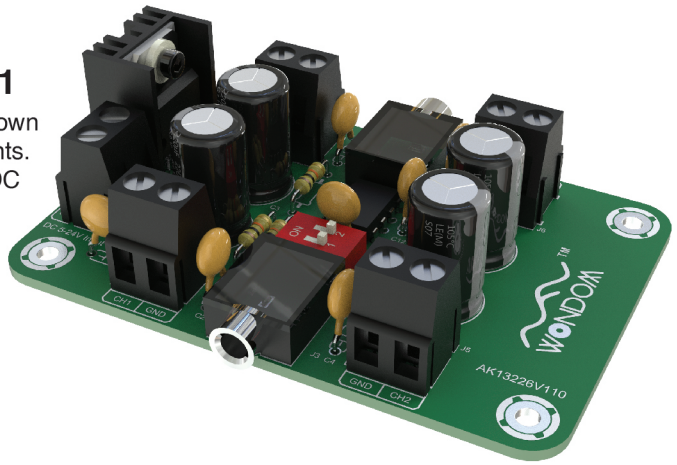
AA-AK32261

2x150mW Class AB
DIY Headphone Amplifier Board Kit - LM4881

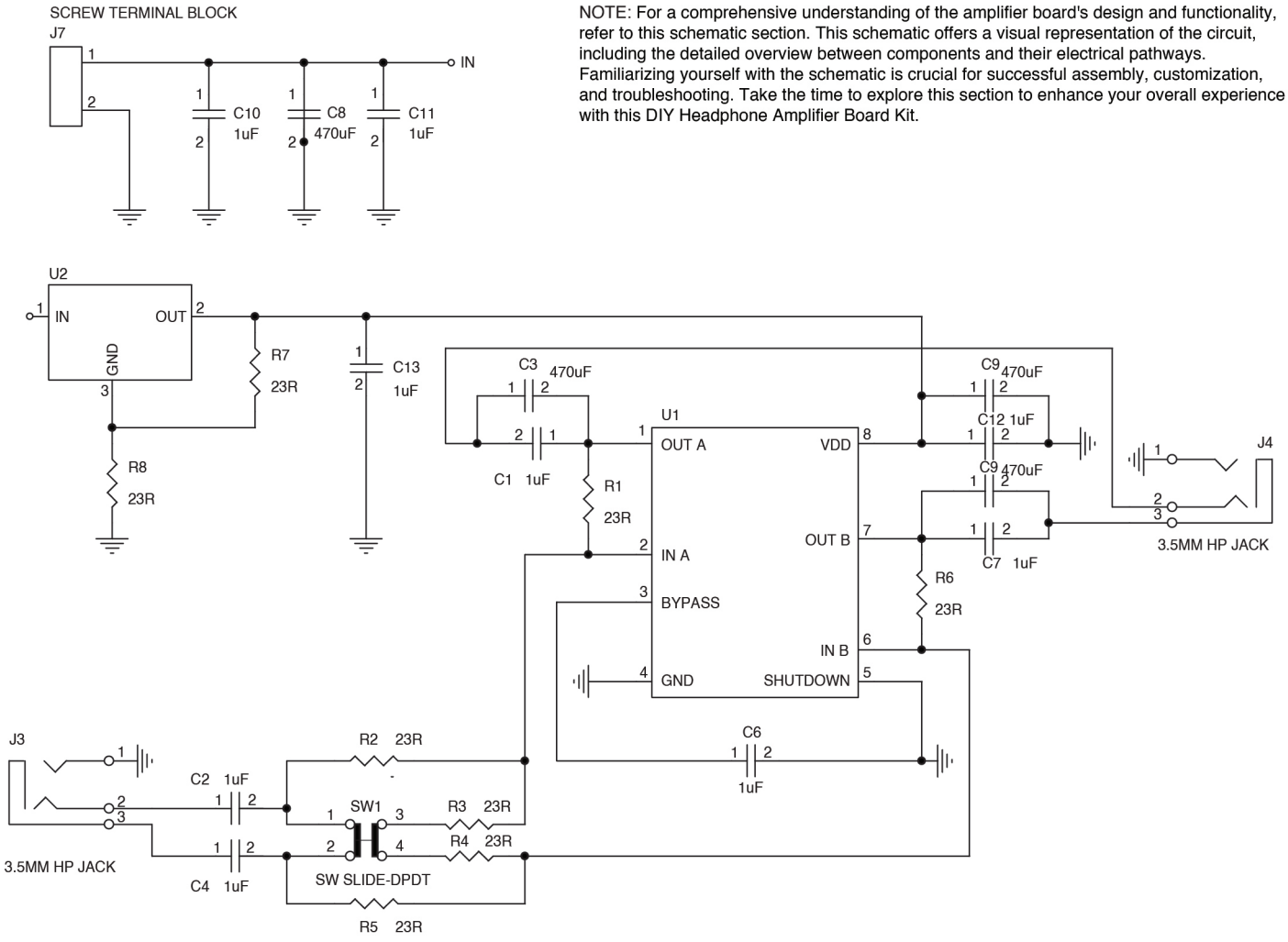
Created the LM4881 dual headphone amplifier integrated circuit, known for its high-quality Class AB output achieved with minimal components. It is versatile, operating with power supplies ranging from 8 to 24 VDC without requiring a heat sink.



Features:
- Class AB output utilizing the LM4881 integrated circuit.
- Switchable gain allows for up to 150 mW of power per channel.
- Capable of powering 8-ohm speakers
- Functions with a voltage range of 8 to 24 volts DC.

Application
- Education Purpose
- DIY Project
- Headphone amplifier

Schematic
(Nominal Dimensions, mm(inch))



NOTE: For a comprehensive understanding of the amplifier board's design and functionality, refer to this schematic section. This schematic offers a visual representation of the circuit, including the detailed overview between components and their electrical pathways. Familiarizing yourself with the schematic is crucial for successful assembly, customization, and troubleshooting. Take the time to explore this section to enhance your overall experience with this DIY Headphone Amplifier Board Kit.

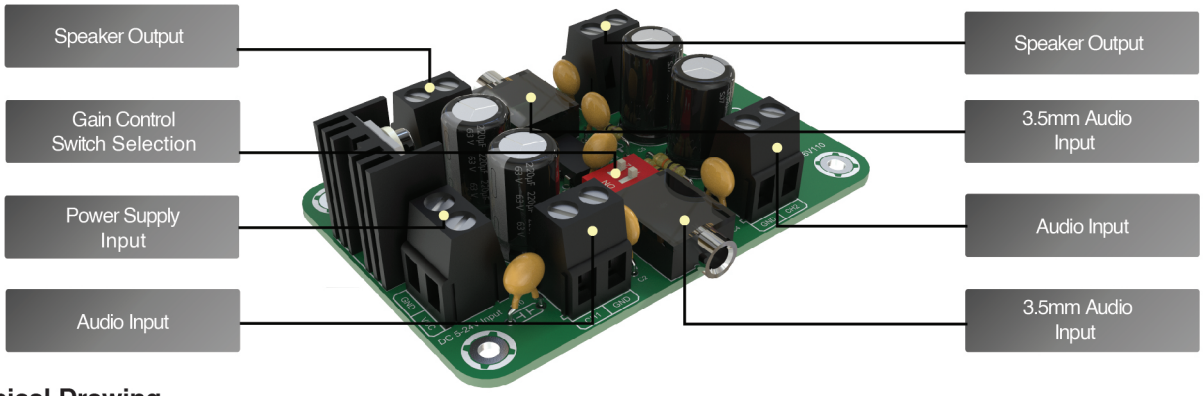
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Designed by:

WONDOM Audio Technology

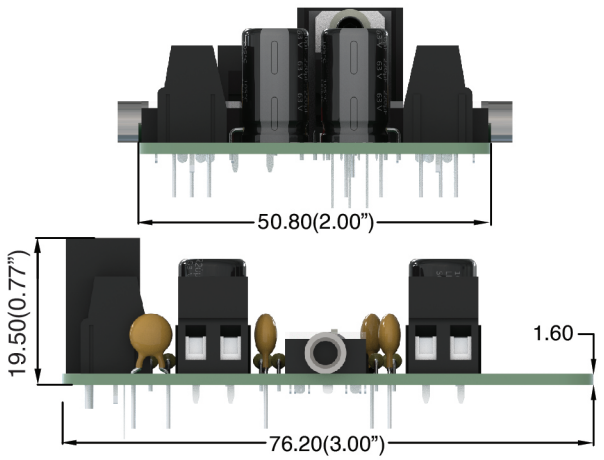
AA-AK32261 User Manual

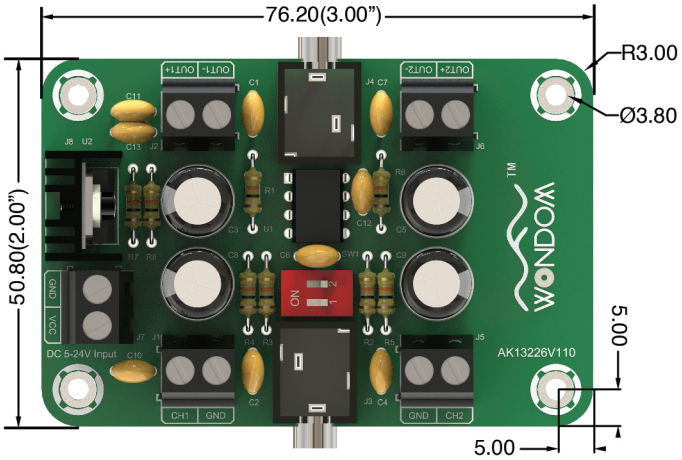
Parameters:			
Supply Voltage	8V to 24V DC	Audio Input	3.5mm Audio Jack
Output Power	2x150mW	Weight	106g
Output Channel	Screw Terminal Block 2 Pin 5.08mm Pitch	Product Size	76.20(3.00”) x 50.80(2.00”) x 19.50(0.77”) mm(inch)



Mechanical Drawing

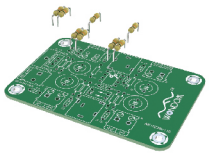
(Nominal Dimensions, mm(inch))



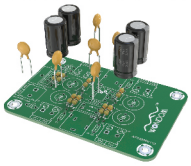


Installation Summary

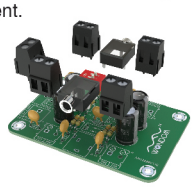
1 **Install Resistor**
Place resistors on the board according to their respective positions.



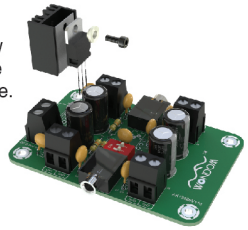
2 **Install Electron & Ceramic Capacitors**
Note the polarity of electrolytic capacitors (+) and (-) leads. Ceramic capacitors are non-polarized, so orientation doesn't matter.



3 **Install Components**
Place the Audio Jack Connector, Screw Terminal Block and ON/OFF Switch.Verify correct orientation and alignment.



4 **Heatsink Assembly:**
Assemble TMI, LDO, and nylon screw insulator together. Securely screw the components to form a unified structure. Attach the assembled heatsink to the specified area on the board.

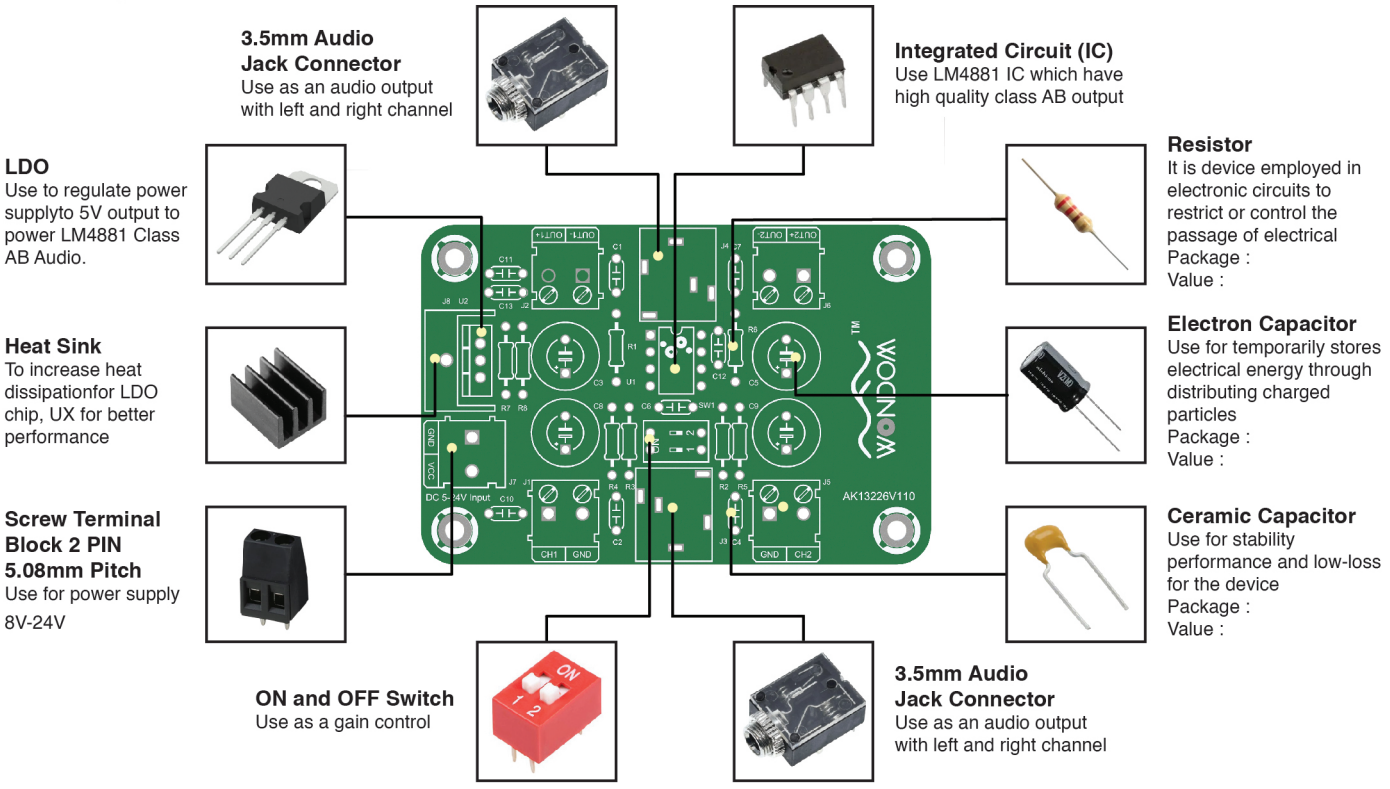


5 **Install LM4881 IC:**
Identify correct IC type and orientation.Double-check alignment to prevent damage.



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Ports Layouts



NOTE: Please be aware that your package includes only one Screw Terminal Block (2 Pin, 5.08mm Pitch) for power input. You can purchase separately if you need additional terminal blocks for your specific setup.

Electrical & Audio Performance Parameters

AA-AK32261 Electrical Performance Parameters

Parameter	Conditions	Min.	Typ.	Max.	Units
Efficiency	-	-	-	-	%
Power Supply Voltage, V_{DD}	-	5	-	24	V
Quiescent Current, I_{DD}	V_{IN} = 0V, I_O = 0V	-	3.6	6.0	V
Output Power, P_O	THD = 0.1% (max), f = 1kHZ, R_L = 8 ohms	125	150	-	mW
	THD = 0.1% (max), f = 1kHZ, R_L = 16 ohms	-	120	-	
	THD = 0.1% (max), f = 1kHZ, R_L = 32 ohms	-	75	-	
Power Consumption	1/4 of max output power @4Ω,1kHz,24V	-	240	-	W

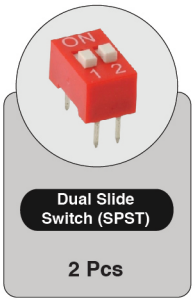
AA-AK32261 Audio Performance Parameters

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Noise Level	-	-	-	-	uV
PSSR	C_B = 1.0uF, V_{RIPPLE} = 200m Vrms, f =120Hz	-	50	-	dB
THD+N	R_L = 16 ohms, P_O = 120m Wrms	-	0.025	-	%
	R_L = 32ohms, P_O = 75m Wrms, f = 120Hz	-	0.2	-	

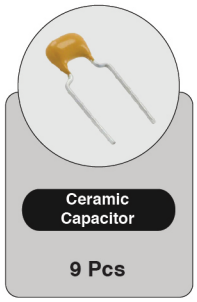
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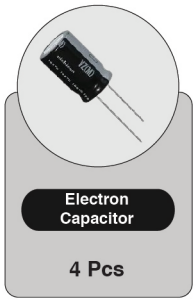
What Include In The Package


Screw Terminal Block 2 Pin 5.08mm Pitch
1 Pcs

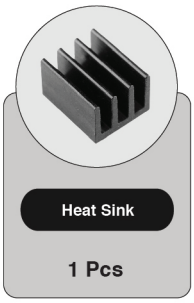

Dual Slide Switch (SPST)
2 Pcs

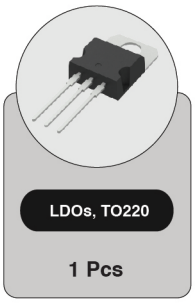

3.5mm Audio Jack Connector
2 Pcs

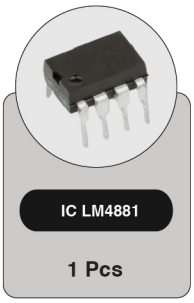

Ceramic Capacitor
9 Pcs


Electron Capacitor
4 Pcs


Resistor
8 Pcs

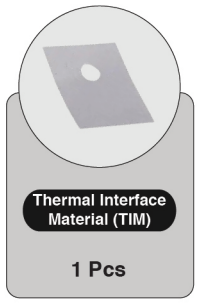

Heat Sink
1 Pcs


LDOs, TO220
1 Pcs


IC LM4881
1 Pcs


Screw
1 Pcs


Nylon Screw Insulator
1 Pcs


Thermal Interface Material (TIM)
1 Pcs

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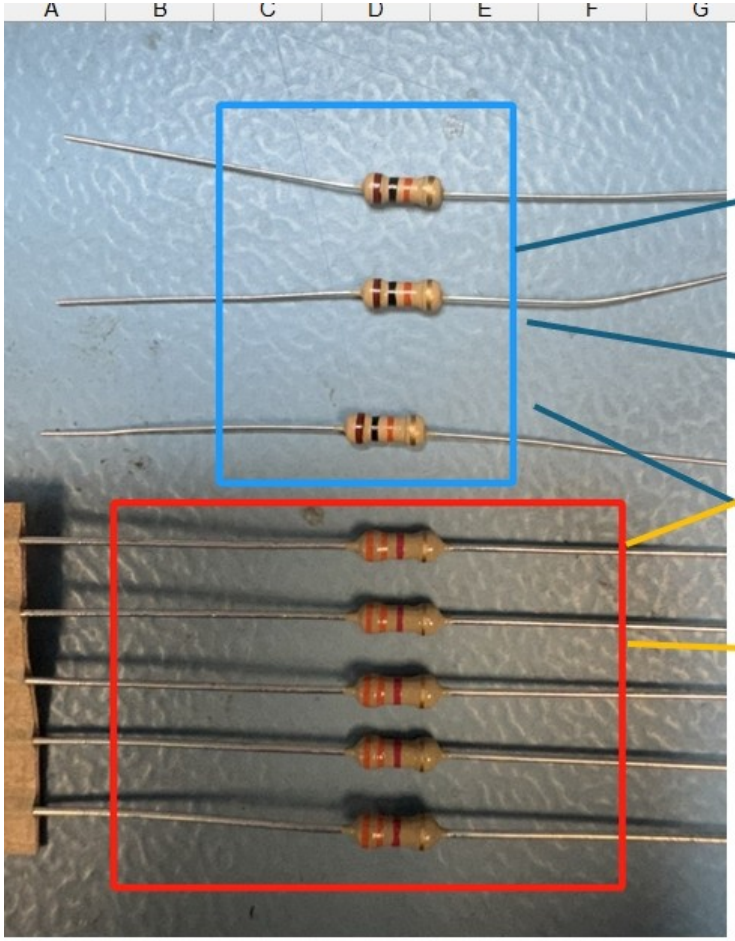
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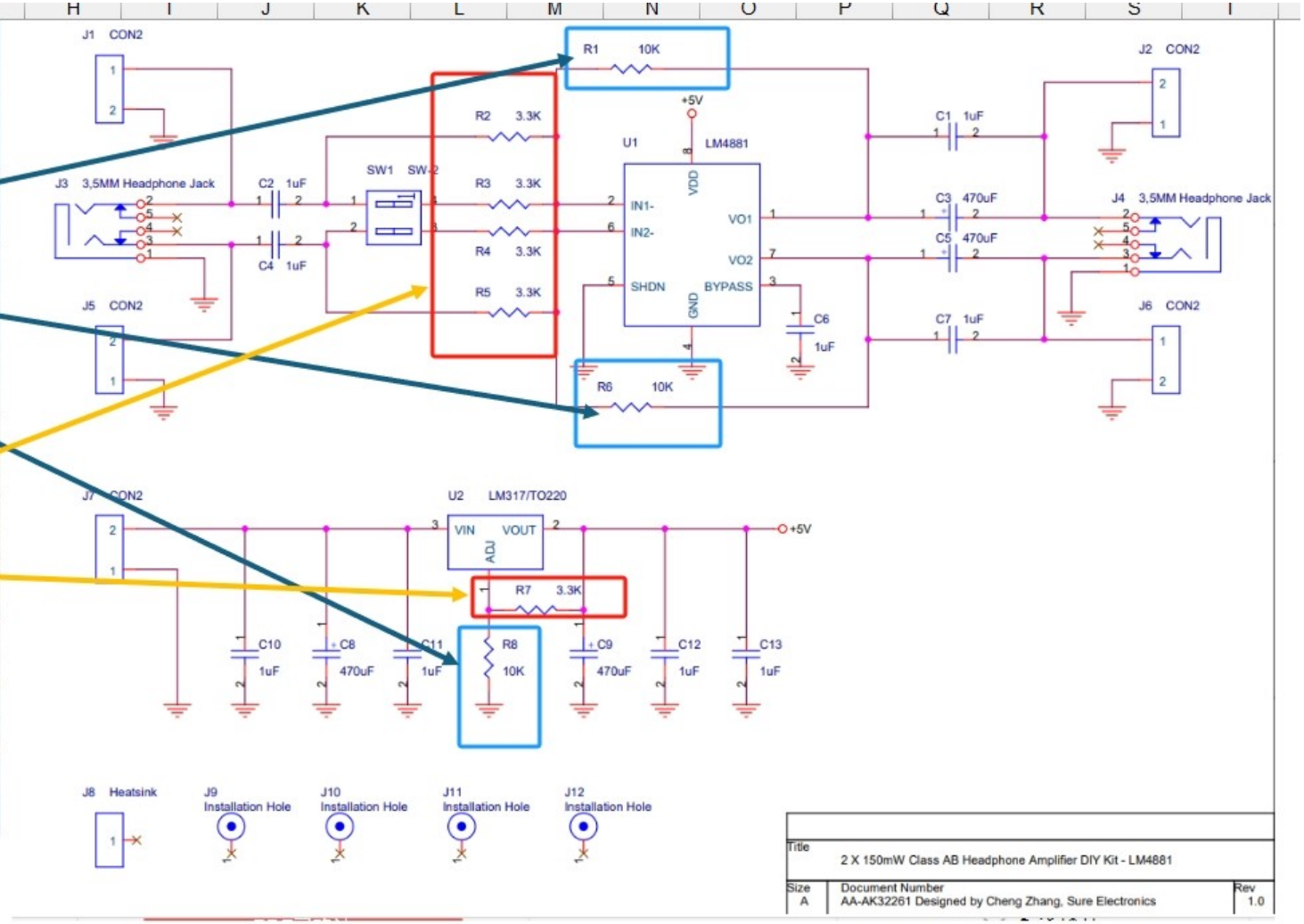
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J1 CON2
R1 10K
J2 CON2
R2 3.3K
+5V
U1 LM4881
C1 1uF
J3 3,5MM Headphone Jack
C2 1uF
SW1 SW-2
R3 3.3K
IN1-
VDD
VO1
C3 470uF
J4 3,5MM Headphone Jack
R4 3.3K
IN2-
VO2
C4 1uF
C5 470uF
J5 CON2
R5 3.3K
SHDN
BYPASS
GND
C6 1uF
C7 1uF
J6 CON2
R6 10K
J7 CON2
U2 LM317/TO220
VIN
VOUT
+5V
ADJ
R7 3.3K
C10 1uF
C8 470uF
C11 1uF
R8 10K
C9 470uF
C12 1uF
C13 1uF
J8 Heatsink
J9 Installation Hole
J10 Installation Hole
J11 Installation Hole
J12 Installation Hole
Title
2 X 150mW Class AB Headphone Amplifier DIY Kit - LM4881
Size
A
Document Number
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Rev
1.0