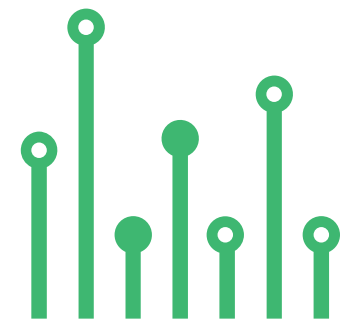


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2.1 Channel Audio Processor with Subwoofer Output



SKU: EL148060

AUDIO

2.1 Channel Audio Processor with Subwoofer Output



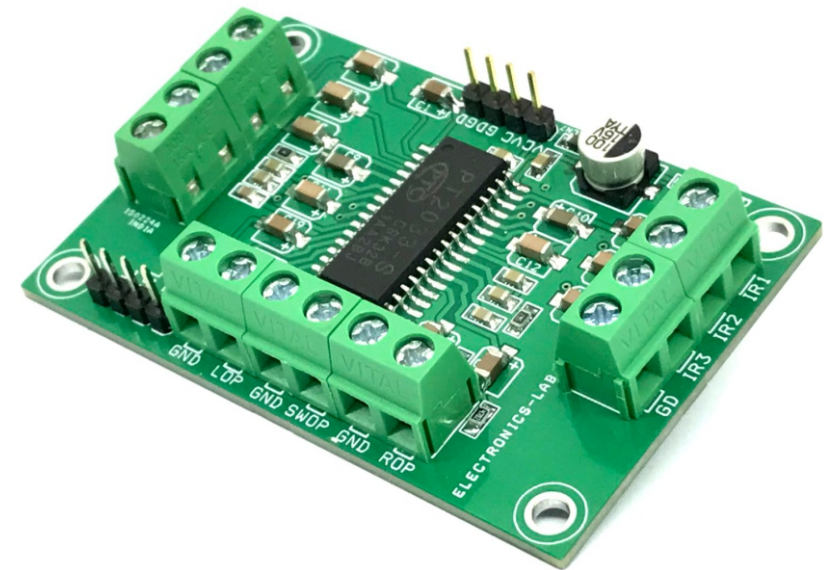
This board is an Audio Processor built using PT2033 chip audio processor designed for versatile applications. It includes 3 stereo input selectors with internal gain and master volume control with low-frequency loudness compensation. It is capable of individual channel output volume adjustment and also tone control.



Note: If current regulation is not required, the ISEN pin should be directly connected to the PCB ground plane, thus shunt resistor R4 should be 0 Ohms. Refer data sheet of the chip for change the load current regulation.

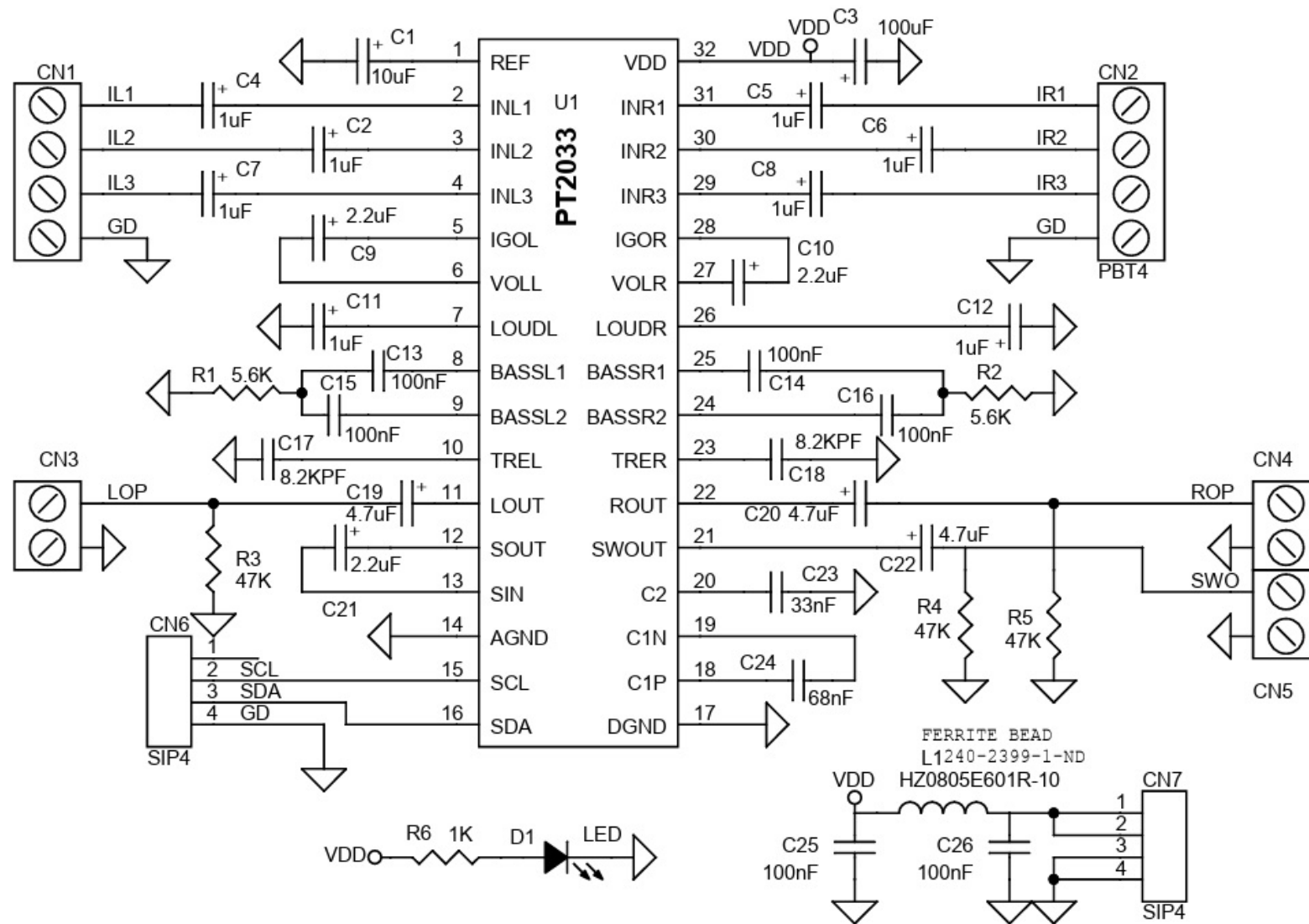
FEATURES

- Wide operation range (VDD from 4V to 10V)
- Controlled by I²C interface
- 3 Stereo Inputs with gain selection.
- Screw Terminals for Easy Inputs and Outputs connections
- Header Connector for Power Supply Input
- Input gain range, from 0dB to +11.25dB, 3.75dB per step
- 2 channels master volume: from 0 dB to -78.75dB, 1.25dB per step
- Built In channel mixer and lowpass filter for subwoofer output
- Subwoofer output volume: from 0dB to -37.5dB, 1.25dB per step
- Tone control (Bass and Treble): from -14dB to +14dB, 2dB per step
- Low harmonic distortion (0.002%, $V_o=200mV_{rms}$)
- Low noise and DC offset
- On Board Power LED
- 4X 3MM Mounting Holes
- PCB Dimensions 65.41X43.18MM

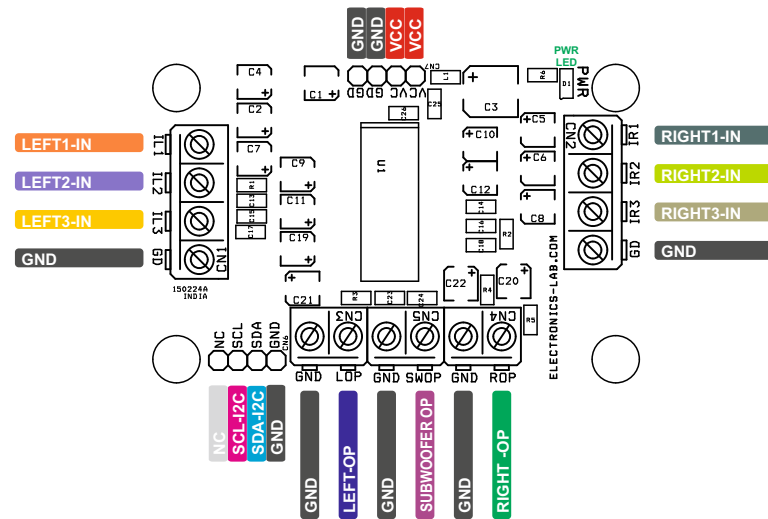


The PT2033 is 2.1 CH Audio Processor with I2C bus interface. The IC is also a sound processor that includes all of the functions required to process the audio signal for TV & Mini Compo, such as Tone control, Volume, Mute, Balance, Loudness, 3 Stereo inputs selector, 1 Stereo output, and 1 Subwoofer out are all built into a single chip to provide Audio system having the highest audio performance and reliability. If a system wants subwoofer signal output, a traditional solution needs a lot of discrete components and OPAMPs to consist of a low pass filter; the PT2033, only needs 2 external capacitors. The PT2033 combines the low pass filter inside the audio processor and the user may determine low pass corner frequency by the capacitance. A broader supply range emphasizes support to every application.

Schematic



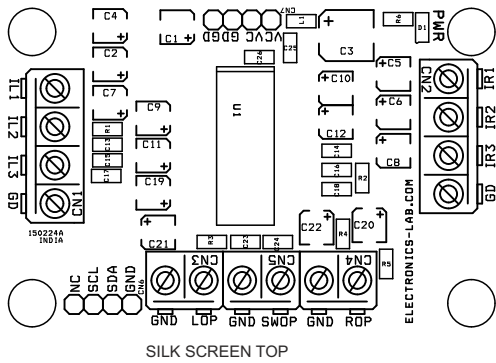
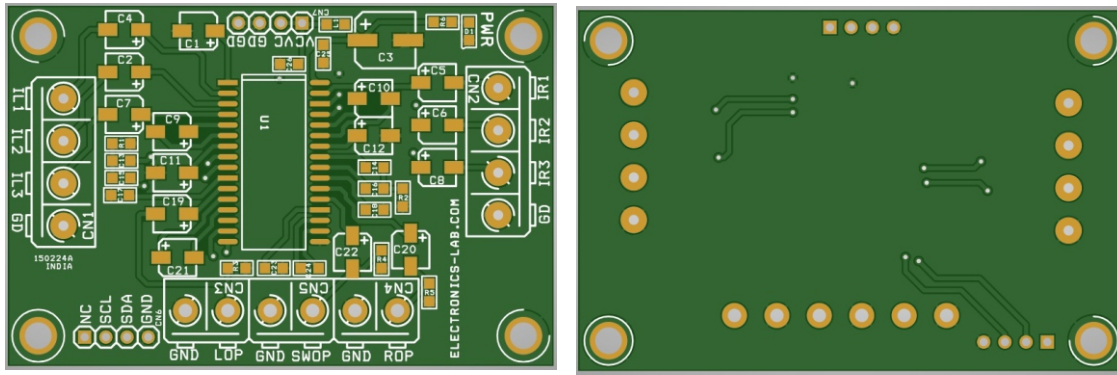
Connections



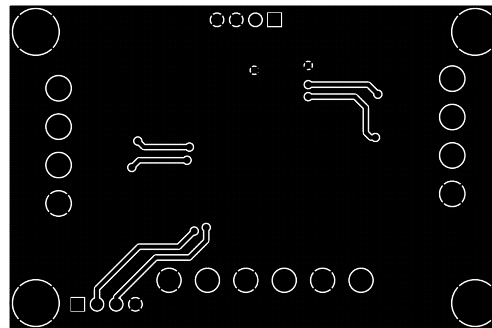
CONNECTIONS

- CN1: Pin 1 = Audio Input Left 1, Pin 2 = Audio Input Left 2, Pin 3 = Audio Input Left 3, Pin 4 = GND
- CN2: Pin 1 = Audio Input Right 1, Pin 2 = Audio Input Right 2, Pin 3 = Audio Input Right 3, Pin 4 = GND
- CN3: Pin 1 = Audio Output Left Channel, Pin 2 = GND
- CN4: Pin 1 = Audio Output Right Channel, Pin 2 = GND
- CN5: Pin 1 = Audio Output Subwoofer, Pin 2 = GND
- CN6: Pin 1 NC, Pin 2 = SCL-I2C, Pin 3 = SDA-I2C, Pin 4 = GND
- CN7: Pin 1,2 = VDD , Pin 3,4 = GND
- D1: Power LED

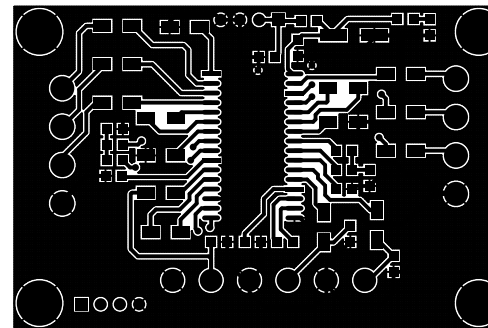
PCB



SILK SCREEN TOP



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS PCB Dimensions 65.41X43.18MM

Parts List

BOM						
NO	QNTY.	REF.	DESC.	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	4	CN1,CN2	2 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX	DIGIKEY	277-1247-ND
2	3	CN3,CN4,CN5	2 PIN SCREW TERMINAL PITCH 5.08MM	PHOENIX	DIGIKEY	277-1247-ND
3	2	CN6,CN7	4 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5317-ND
4	1	C1	10uF/25V CERAMIC SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
5	8	C2,C4,C5,C6,C7,C8,C11,C12	1uF/25V CERAMIC SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
6	3	C9,C10,C21	2.2uF/25V CERAMIC SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
7	6	C13,C14,C15,C16,C25,C26	100nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
8	2	C17,C18	8.2KPF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
9	3	C19,C20,C22	4.7uF/25V CERAMIC SMD SIZE 1206	YAGEO/MURATA	DIGIKEY	
10	1	C23	33nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
11	1	C24	68nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
12	1	D1	LED SMD SIZE 0805	OSRAM	DIGIKEY	475-1278-1-ND
13	1	L1	HZ0805E601R-10	LAIRD	DIGIKEY	240-2399-1-ND
14	2	R1,R2	5.6K 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
15	3	R3,R4,R5	47K 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
16	1	R6	1K 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
17	1	U1	PT2033	PRINCETON	ALIEXPRESS	
18	1	C3	100uF/16V	PANASONIC	DIGIKEY	PCE3783CT-ND

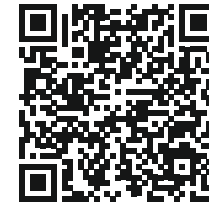
Notes



APP

Android App

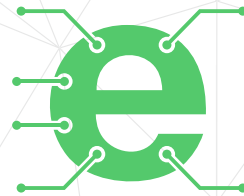
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