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# Ground Isolation Audio Amplifier For Automotive Applications



### **AUDIO**

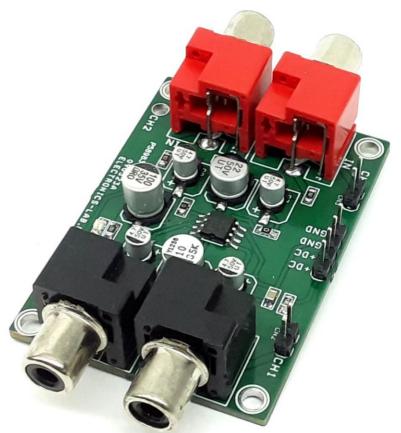
# GROUND ISOLATION AUDIO AMPLIFIER FOR AUTOMOTIVE APPLICATIONS



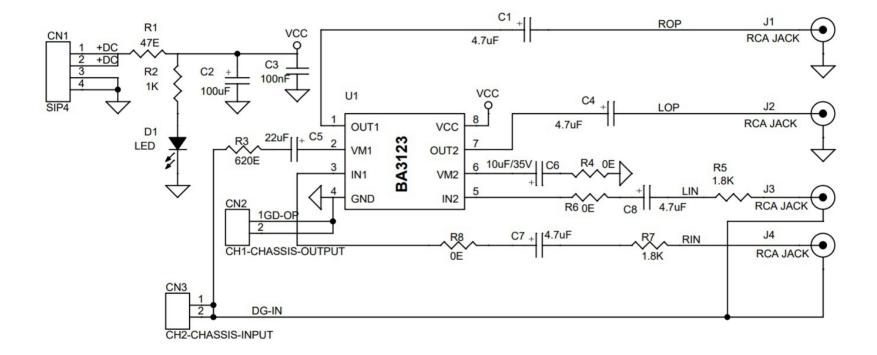
This Ground Isolation Amplifier is developed for car and automotive applications. The board efficiently eliminates problems caused by wiring resistance and removes noise generated by other electrical devices used in automobile environment. In a car or automotive the audio system is grounded to the car body. For this reason, electrical noise generated by the car electrical system can enter the power amplifier input through the chassis and become audible. The BA3123F utilizes the common-mode rejection characteristics of an OPAMP to eliminate this noise. 4 x RCA connectors are provided for easy audio interface. 2x pin header connector is provided for chassis ground.

### **Features**

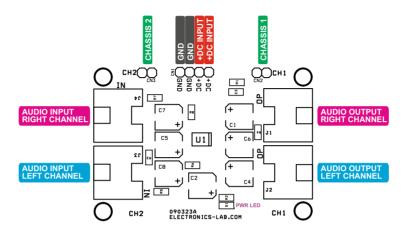
- Power Supply 4V to 18V DC
- Ouiescent Current 9mA
- High Common-mode Rejection Ratio(1Khz) 57dB
- Low Noise
- Low Distortion THD 0.002% (Vout 0.7V)
- Frequency Response 20Hz to 20Khz
- PCB Dimensions 58.58 X 41.28MM
- 4 X 2.5MM Mounting Holes



# **Schematic**



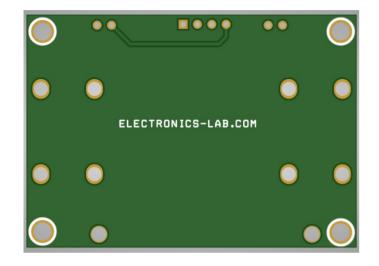
# **Connections**

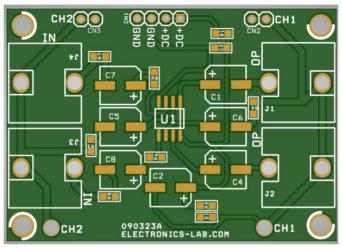


### **Connections and Other Details**

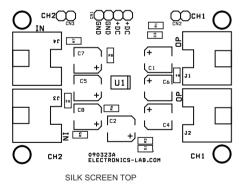
- CN1: Pin 1,2 = VCC 4V to 18V, Pin 3,4=GND
- CN2: Connect it to Car Chassis
- CN3: Connect it to Car Chassis
- J1: RCA Female Audio Output (Right Channel)
- J2: RCA Female Audio Output (Left Channel)
- J3: RCA Female Audio Input (Left Channel)
- J4: RCA Female Audio Input (Right Channel)
- D1: Power LED

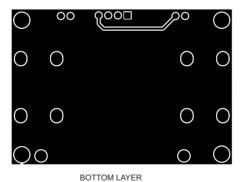
# **PCB**

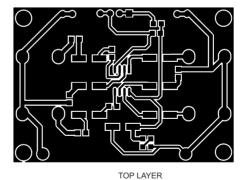










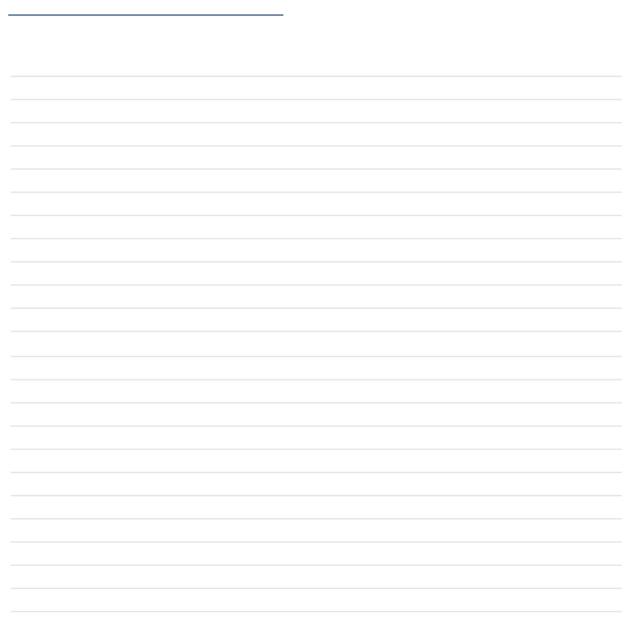


PCB DIMENSIONS 58.58 X 41.28MM

# **Parts List**

BOM						
NO	QNTY.	REF.	DESC.	<b>MANUFACTURER</b>	SUPPLIER	SUPPLIER'S PART NO
1	1	CN1	4 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5317-ND
2	1	CN2	2 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5315-ND
3	1	CN3	2 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5315-ND
4	4	C1,C4,C7,C8	4.7uF/35V SMD ELECTROLYTIC	PANASONIC	DIGIKEY	PCE4296CT-ND
5	1	C2	100uF/25V SMD ELECTROLYTIC	UNITEC CHEMI	DIGIKEY	565-EMVE250ARA101MF80GCT-ND
6	1	C3	100nF/50V CERAMIC SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
7	1	C5	22uF/25V SMD ELECTROLYTIC	NICHICON	DIGIKEY	493-10060-1-ND
8	1	C6	10uF/35V SMD ELECTROLYTIC	UNITEC CHEMI	DIGIKEY	565-EMVH350ARA100MF60GTR-ND
9	1	D1	LED RED SMD SIZE 0805	OSRAM	DIGIKEY	475-1278-1-ND
10	4	J1,J2,J3,J4	RCA JACK	CUI AUDIO	DIGIKEY	CP-1418-ND
11	1	R1	47E 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
12	1	R2	1K 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
13	1	R3	620E 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
14	3	R4,R6,R8	0E SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
15	2	R5,R7	1.8K 5% SMD SIZE 0805	YAGEO/MURATA	DIGIKEY	
16	1	U1	BA3123 SOIC8	ROHM	DIGIKEY	846-BA3123F-E2TR-ND

# **Notes**





# **APP**

### **Android App**

DOWNLOAD



Android App launched in 2017 and has 100k+downloads - rated with 4.5 stars.

**SCAN QR CODE** 





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