

Headphone Amplifiers

BD88200GUL/BD88400GUL Evaluation Board Information

BD88200GUL-EVK-001/BD88400GUL-EVK-001

● General

BD88200GUL/BD88400GUL is output capacitor-less headphone amplifiers. The voltage gain can be change by the external resistors. BD88200GUL has a Ground-Referenced terminal. BD88400GUL doesn't have a Ground-Reference terminal. BD88200GUL can be used as BD88210GUL/BD88215GUL/BD88220GUL by changing external resistors. BD88400GUL can be used as BD88410GUL/BD8415GUL/BD88420GUL by changing external resistors.

	BD88200	BD88210	BD88215	BD88220	BD88400	BD88410	BD88415	BD88420
Gain (V/V)	Depending external R	-1.0	-1.5	-2.0	Depending external R	-1.0	-1.5	-2.0
Ground Reference terminal	○				—			
Maximum Output (mW)	80 + 80							

● Index

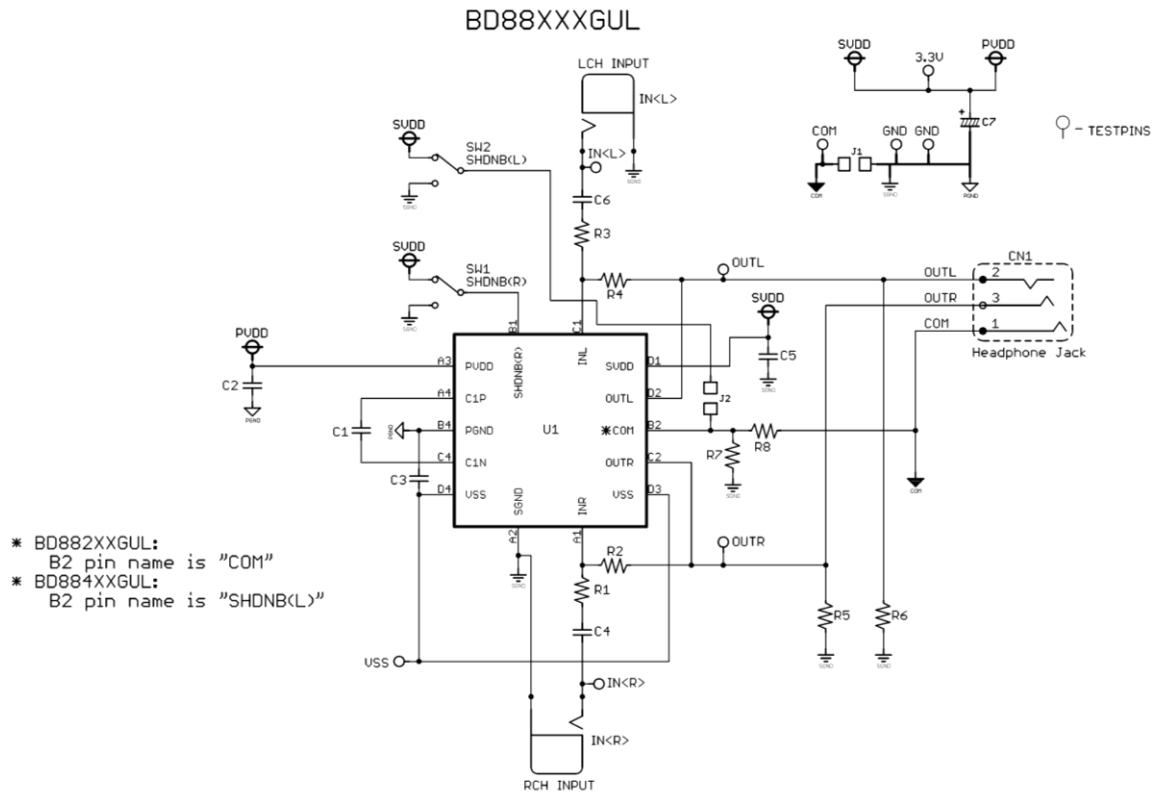
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● Conditions

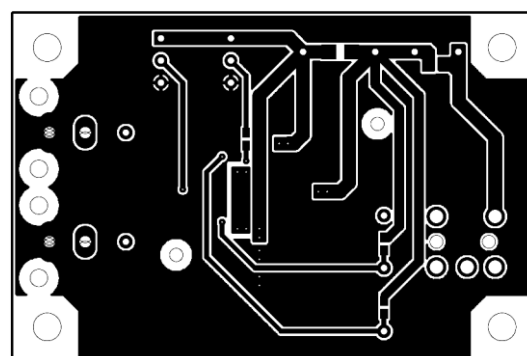
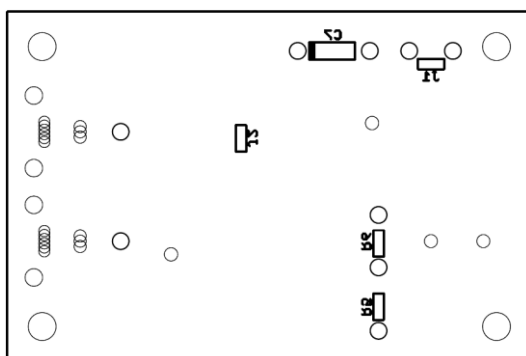
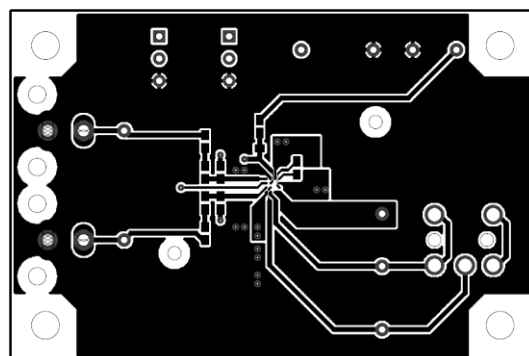
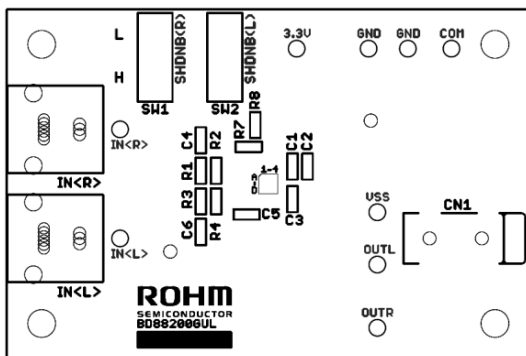
Item	Symbol	Range	Unit
Power Supply Voltage	V_{CC}	+2.4 ~ +5.5	V
Input Voltage	V_{IN}	-2.5 ~ +2.5	V
Load Impedance	R_L	$16 \leq$	Ω

This document is information of the evaluation board when we evaluated the device.
 This information will help you when designing your evaluation board.
 Notice, the evaluation board is not available for sale except BD88400GUL.

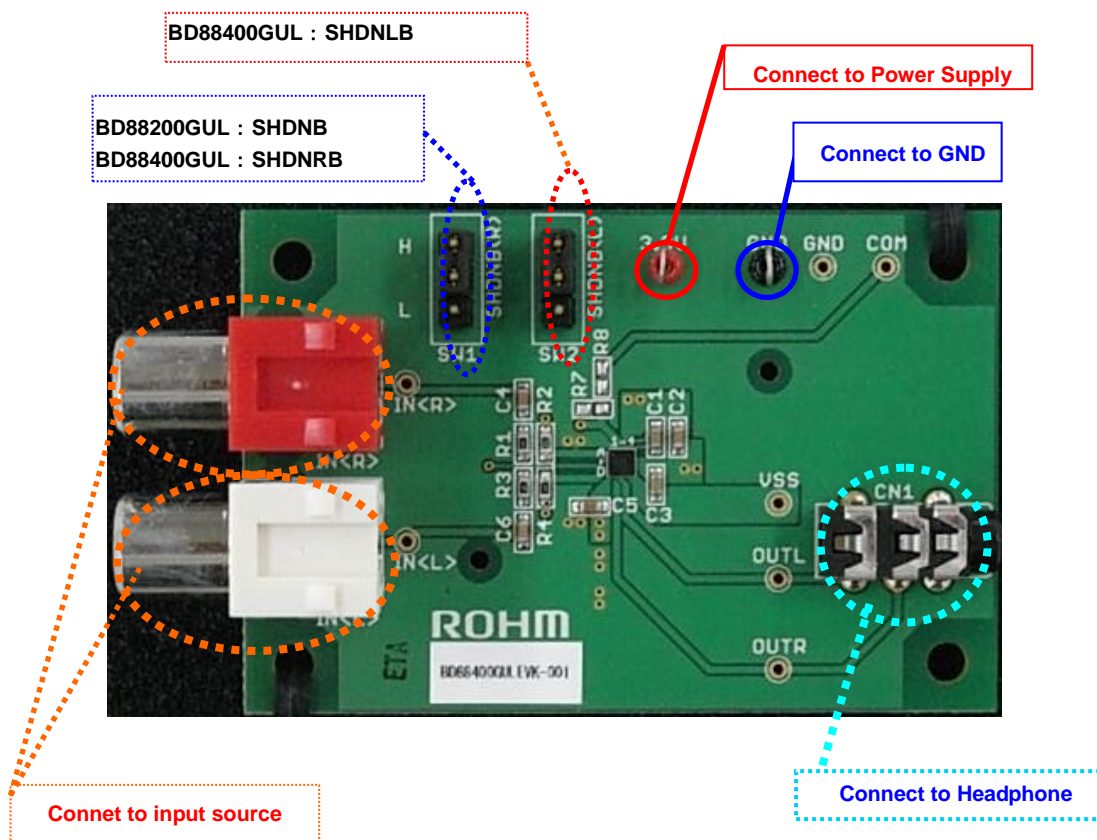
● Circuit Diagram



● PCB layout



● Usage



- ① BD88200GUL: SHDNB, BD88400GUL: SHDNLB / SHDNRB = L
- ② Connect the Power Supply pin and GND pin.
- ③ Connect the audio source.
- ④ Power On
- ⑤ BD88200GUL: SHDNB, BD88400GUL: SHDNLB / SHDNRB = H
- ⑥ Input the audio source.

●BOM List

num	Part number	Type	Value		Package/ SMD size
			BD88200GUL	BD88400GUL	
1	U1	IC	—		VCSP50L2
2	C1, C3	Ceramic Capacitor	2.2 μ F		1608
4	C2, C4~C6	Ceramic Capacitor	1.0 μ F		1608
1	C7	Tantalum Capacitor	10 μ F		3216
2	R1, R3	Resister ¹	10k Ω		1608
2	R2, R4	Resister ^{*1}	10k Ω		1608
2	R5, R6	Resister	Open		—
1	R7	Resister ^{*2}	10k Ω	Open	1608
1	R8	Resister ^{*2}	10k Ω	Open	1608
1	J1	Solder short ^{*3}	Short		—
1	J2	Solder short	Open	Short	—

*1 R1~R4 are the gain control resister of BD88400GUL and BD88200GUL.

*2 R7, R8 are the Ground-sense resister of BD88200GUL.

*3 In case of BD88200GUL, the COM pin of shipped board connected to the GND terminal of H.P. Jack by shorting J1. If the BD88200GUL board connects to the external board, open the J1 jumper and connects the COM to the point of near H.P. jack of the external board.

*4 When use the below resisters, the BD88200GUL board has close performance as the BD88210GUL board.
(example) R1=R3=15k Ω 、R2=R4=15k Ω

*5 When use the below resisters, the BD88200GUL board has close performance as the BD88215GUL board.
(example) R1=R3=15k Ω 、R2=R4=22k Ω

*6 When use the below resisters, the BD88200GUL board has close performance as the BD88220GUL board.
(example) R1=R3=15k Ω 、R2=R4=30k Ω

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