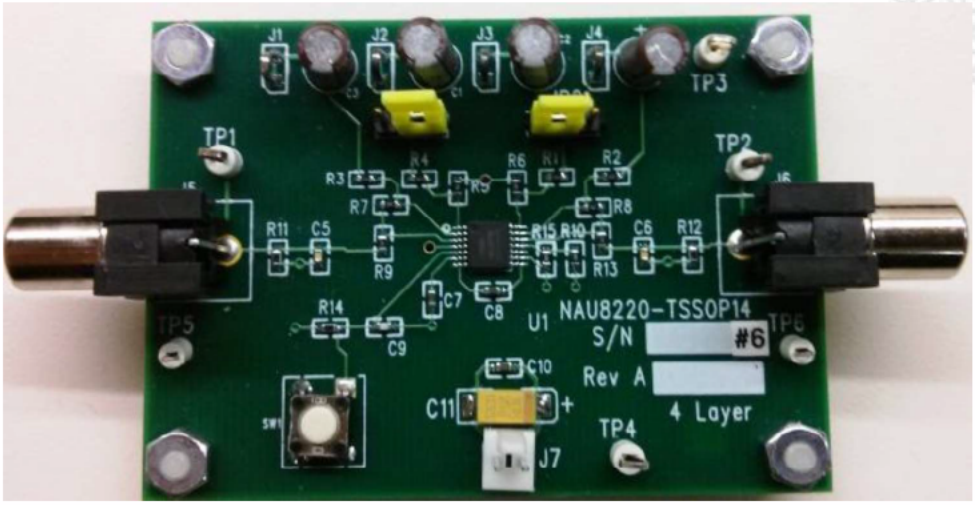
NAU8220 Line Driver

User Manual



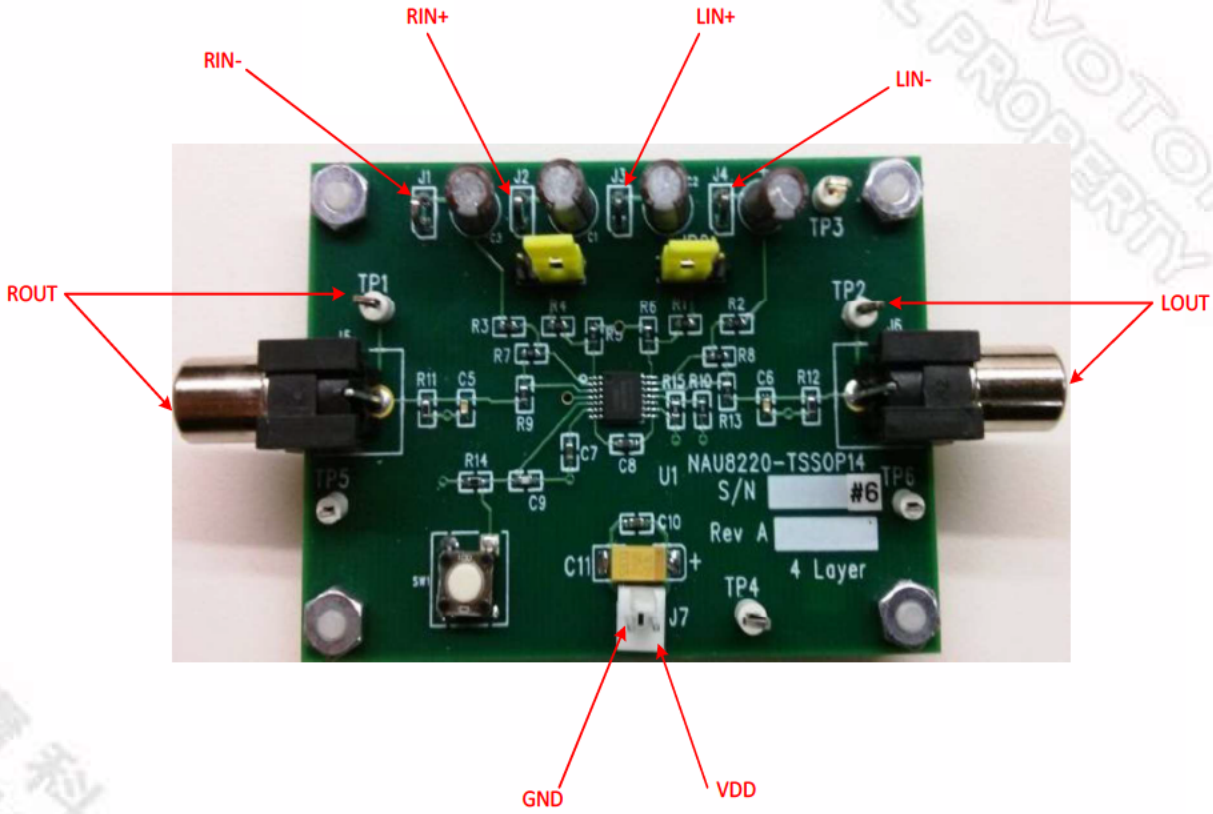
1. DESCRIPTION

The NAU8220 is a high quality 2Vrms analog input and output line driver. This device includes an integrated charge pump enabling true ground referenced inputs and outputs and full 5.6Vpp output levels, while operating from only a single 3.3V positive supply voltage.

Additionally, the NAU8220 includes pop/click elimination features and high immunity to power supply and other system noise. This enables fast and efficient system integration while minimizing external component costs.

The NAU8220 is specified for operation from -40°C to +85°C, It is packaged in a cost-effective and space-saving 14-lead SOP and TSSOP packages.

2. EVALUATION BOARD



3. HARDWARE CONNECTIONS

Install jumpers to short pin1/pin2 of JP1 and JP2, respectively

Apply 3.0-3.6V (typical 3.3V) supply to J7 as shown in the figure above.

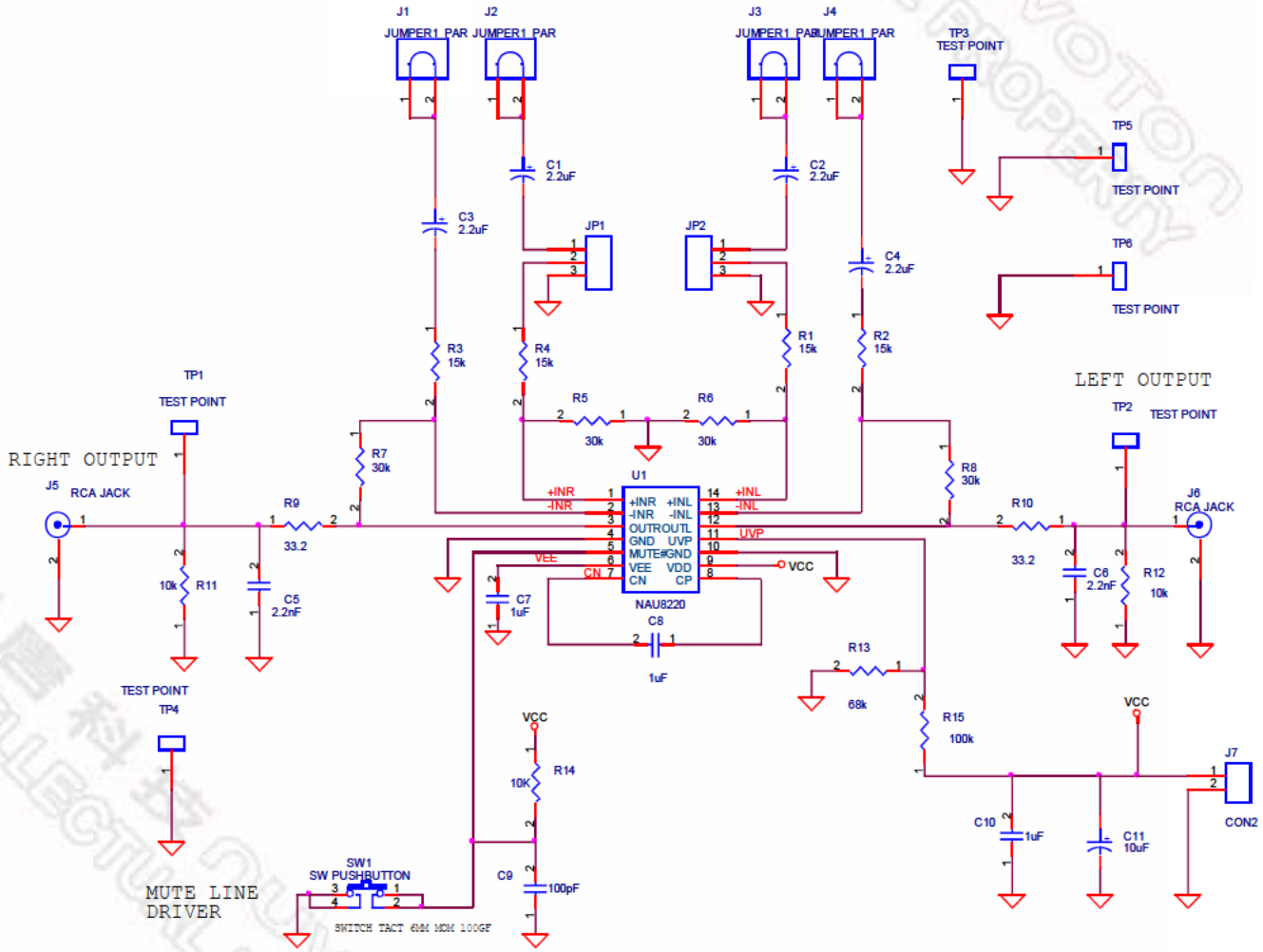
4. GENERAL OPERATION:

Amplification: Apply analog input signals across J1/J2 for right channel or J4/J3 for left channel (restriction -1.5V~+1.5V for common mode).The output can be measured at RCA jack J5 (right) and J6 (left) or TP1 (right) or TP2 (left). (TP3~TP6 are GND)

Mute: When switch SW1 is pressed, the output would be zero.

UVP (Under Voltage Protection): Decrease VDD gradually, the output would be present at the beginning, but will abruptly go to zero when VDD is slightly less than 2.4V. Now if VDD is increased gradually, the output would not be available until VDD is about 2.8V.

5. SCHEMATIC



6. BILL OF MATERIALS

Item	Qty	Reference	Part Value	Part Descripton
1	4	C1,C2,C3,C4	2.2uF	CAP ALUM 2.2UF 50V 20% RADIAL
2	2	C6,C5	2.2nF	CAP CER 2200PF 50V 5% X7R
3	3	C7,C8 C10	1uF	CAP CER 1UF 16V 10% X7R
4	1	C9	100pF	CAP CER 100PF 50V 5% NP0
6	1	C11	10uF	CAP TANT 10UF 25V 10% 2312
7	2	JP2,JP1	CON3	CONN HEADER 2POS .100 VERT TIN
8	4	J1,J2,J3,J4	JUMPER1_PAR	TEST POINT PC LOW PRO W/OUT BASE
9	2	J5,J6	RCA JACK	CONN RCA JACK R/A BLACK PCB
10	1	J7	CON2	
11	4	R1,R2,R3,R4	15k	RES 15.0K OHM .25W 1%
12	4	R5,R6,R7,R8	30k	RES 30.0K OHM 1/10W 1%
13	2	R10,R9	33.2	RES 33.2 OHM .25W 1%
14	3	R12,R11.R14	10k	RES 10.0K OHM 1/10W 1%
15	1	R13	68k	RES 68.0K OHM 1/10W 1%
17	1	R15	100k	RES 100K OHM .25W 1%
18	1	SW1	SW PUSHBUTTON	SWITCH TACTILE SPST-NO 0.05A 24V
19	4	TP1,TP2,TP3,TP4	TEST POINT	TEST POINT PC MULTI PURPOSE WHT
20	2	TP5,TP6	TEST POINT	TEST POINT PC MINI .040"D WHITE
21	1	U1	NAU8220	Nuvoton part

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