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NCP2993FCT2GEVB

NCP2993FCT2 Evaluation Board User's Manual



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EVAL BOARD USER'S MANUAL

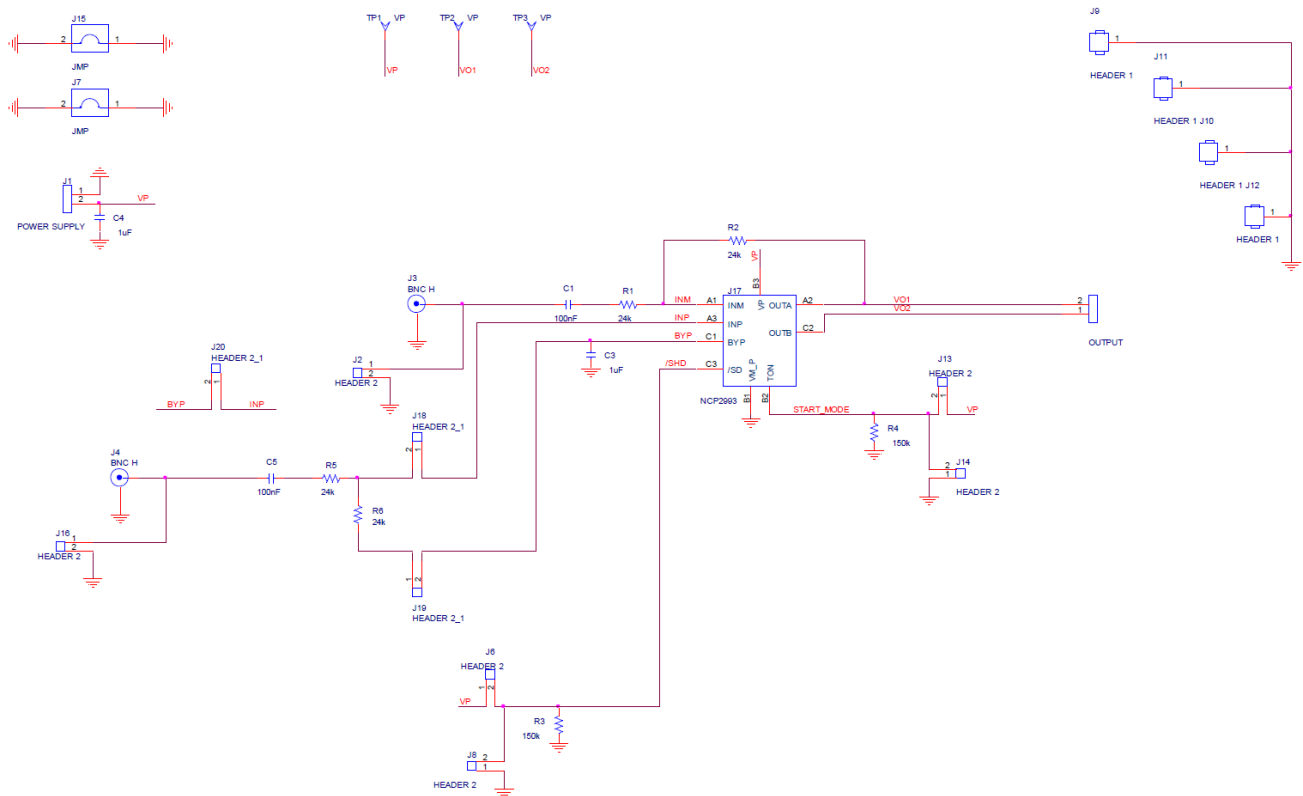


Figure 1. NCP2993FCT2GEVB Board Schematic

NCP2993FCT2GEVB

Table 1. BILL OF MATERIALS

Item	Part Description	Ref.	PCB Footprint	Manufacturer	Manufacturer Reference
1	NCP2993FCT2 Audio Amplifier			ON Semiconductor	NCP2993FCT2
2	SMD Resistor 24K Ω	R1, R2, R5, R6	0805	Panasonic	ERJ-6GEY203V
3	SMD Resistor 150K Ω	R3, R4	0805	Panasonic	ERJ-6GEY203V
4	Ceramic Capacitor 100 nF 16 V X5R	C1, C5	0805	Murata	GRM21BR71E104KA01
5	Ceramic Capacitor 1 μ F 16 V X5R	C3, C4	0805	Murata	GRM216R61C105KA88
6	Jumper Header Vertical Mount, 2 positions, 100mils	J2, J6, J8, J13, J14, J16	100 mils	Tyco Electronics / AMP	5-826629-0
7	I/O Connector, 2 positions	J1, J5	200 mils	Phoenix Contact	1757242
8	Jumper Connector	J7, J15	400 mils	Harwin	D3082-B01
9	Not Mounted	J3, J4			

NCP2993FCT2GEVB

SINGLE-ENDED OR DIFFERENTIAL CONFIGURATION

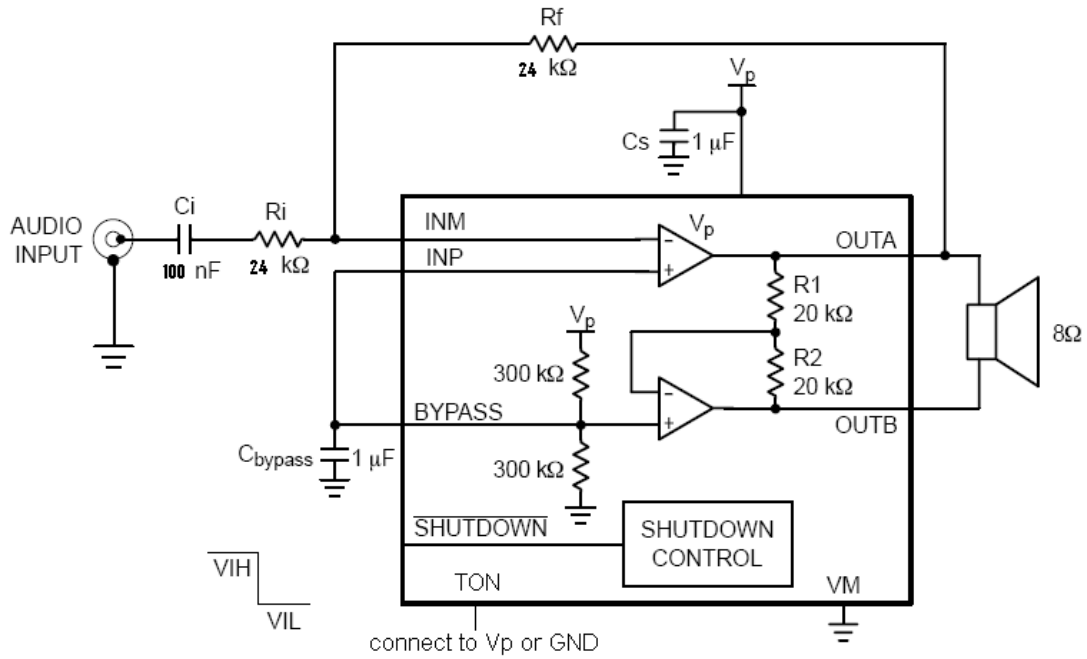


Figure 4. Single-ended Configuration

Connect J20, disconnect J18 and J19 to use the evaluation board in Single-ended configuration.

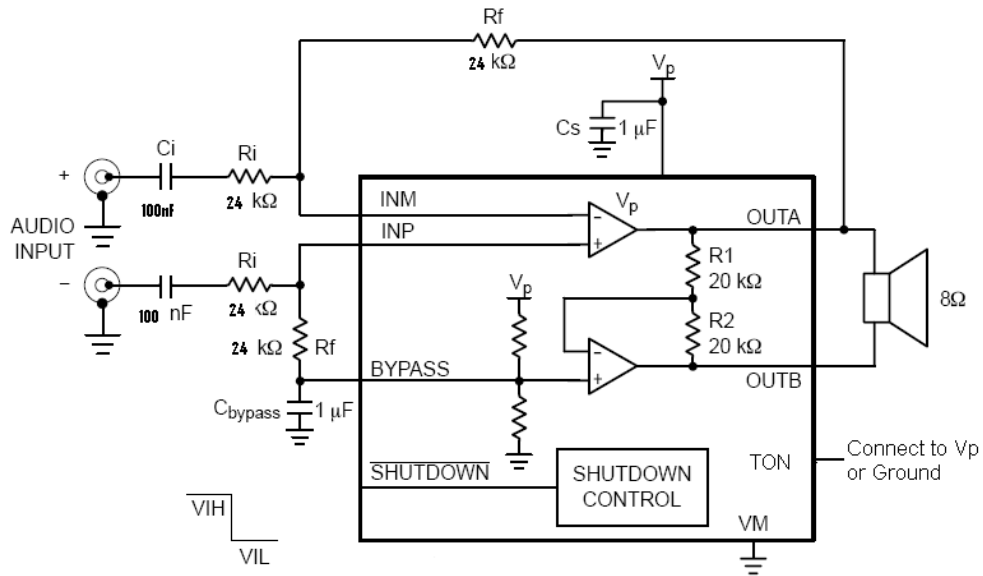


Figure 5. Differential Configuration

Connect J18 and J19, disconnect J20 to use the evaluation board in Differential configuration.

NCP2993FCT2GEVB


NCP2993FCT2 TEST PROCEDURE

Output Power:

1. Set $V_p = 5\text{ V}$ to power supply connector (J1).
2. Set an $8\ \Omega$ load (resistance) on the output connector (J5).
3. With the function generator, set a single ended signal at 1 kHz and 0.5 Vrms input signal on the negative input. Apply this signal either on J2 or J3 connectors. As $R_1=R_2=24\text{k}$, VO1 will see 0.5 Vrms. As VO1 signal is inverted by the second amplifier, VO2 will also see 0.5 Vrms with 180° delay. Thus, the load between VO1 and VO2 will see 1 Vrms.
4. Place 2 oscilloscope probes on the output (differential measurement). You should get 1 Vrms output signal with a "perfect sine wave". That is to say no clipping at the minima and maxima of the sine wave.

Quiescent Current:

Check the quiescent current. Place an $8\ \Omega$ load, no input signal. V_p set to 5 V and J6 closed. You should measure around 1.9 mA.

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