

ADA4899-1 Rail-to-Rail SAR ADC Driver Amplifier

DESCRIPTION

Demonstration circuit 2622A features the ADA4899-1 amplifier. The DC2622A includes two of these amplifiers and is designed to drive the inputs of the DC2290 demo board. The DC2290 features the LTC®2387 18-bit, 15Msps high speed SAR ADC. The linearity and low noise of the ADA4899-1 make it an ideal candidate to drive the LTC2387 at frequencies above 1MHz. See Table 1.

The DC2622A is configured to accept a single-ended input signal and provide unity gain. The board can provide voltage gain if several component values are changed. For

example, a voltage gain of two will result if the following changes are made:

- Change R23 to 309Ω
- Install 309Ω at R27
- Install 100pF at C28
- Change R18 to 287Ω

Design files for this circuit board are available at <http://www.linear.com/demo/DC2622A>

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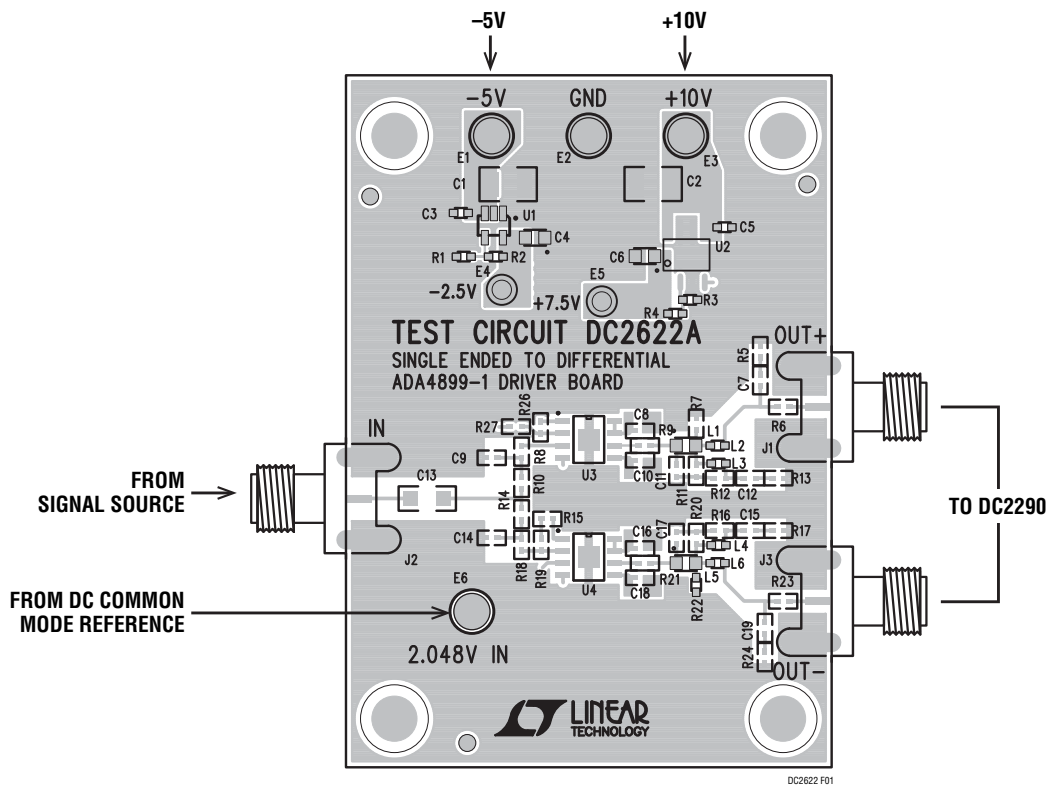


Figure 1. DC2622A Connection Diagram

Table 1. DC2290 (LTC2387 Family) Driver Boards

INPUT FREQUENCY	DRIVER BOARD	AMPLIFIER
Up to 8kHz	DC2402	LT6237
Up to 1MHz	DC2403	LT6200
>1MHz	Lowest Noise — DC2622 Lowest Distortion — DC2623	ADA4899-1 LTC6404-1 + AD8002

DEMO MANUAL DC2622A

QUICK START PROCEDURE

Connect the DC2622A to a DC2290A using the two output SMA connectors J1, J3. Connect the +10V and -5V DC supplies to the turrets on the DC2622A. Apply a 2.048V

DC voltage, preferably from E7 of the DC2290A, to 2.048V in turret of the DC2622A.

HARDWARE SETUP

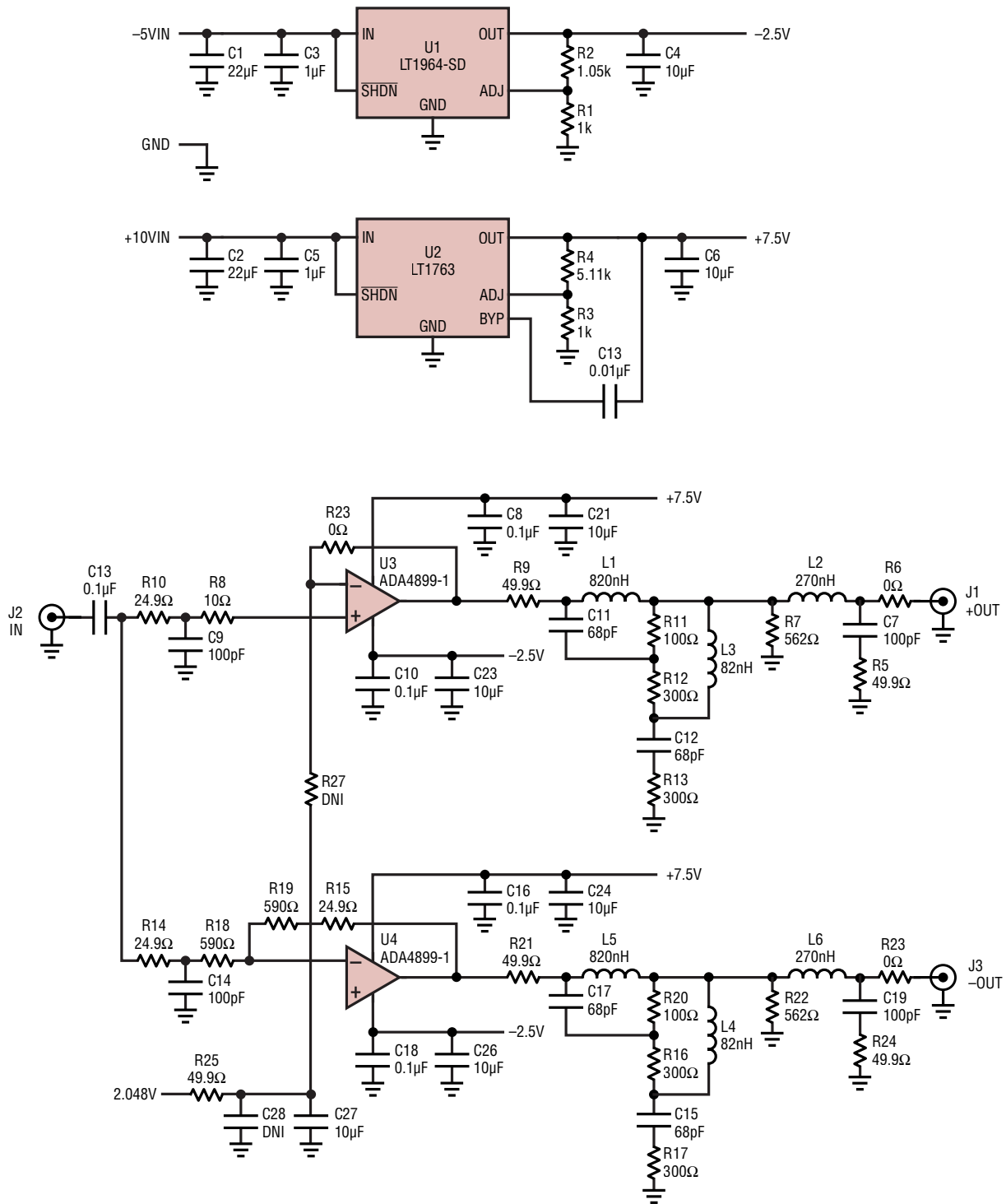
SIGNAL CONNECTIONS

J2 IN. This is the signal input.

J3 -OUT. This is the negative signal output.

J1 +OUT. This is the positive signal output.

SCHEMATIC DIAGRAM



DEMO MANUAL DC2622A

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