

Evaluation Board for Single Differential Amplifiers Offered in 16-Lead LFCSP Packages

FEATURES

Enables quick breadboarding/prototyping
User defined circuit configuration
Edge mounted SMA connector provisions
Easy connection to test equipment and other circuits
RoHS compliant

GENERAL DESCRIPTION

The Analog Devices, Inc., differential amplifier, 16-lead LFCSP evaluation board evaluates single, high speed, fully differential amplifiers offered in 16-lead LFCSP packages. The evaluation board is a bare board that enables users to quickly prototype a variety of single op amp circuits, which minimizes risk and reduces time to market. Figure 1 shows the component side of the bare evaluation board. Figure 2 shows the circuit side of the bare evaluation board.

The 6-layer evaluation board accepts SMA edge-mounted connectors on the inputs and outputs for efficient connection to test equipment or other circuitry. The ground plane, component placement, and supply bypassing minimize parasitic inductance and capacitance. The evaluation board components are primarily SMT 0603 case size, with the exception of the electrolytic bypass capacitors (C1 and C2), which are 3528 case size.

Figure 3 shows the evaluation board schematic and Figure 4 through Figure 6 show the interface schematics. The printed circuit board (PCB) assembly drawings are shown in Figure 7 and Figure 9. See Figure 8 and Figure 10 for the PCB layout patterns.

The layout pattern for the PCB is shown in Figure 8 and Figure 10.

EVALUATION BOARD COMPONENT AND CIRCUIT SIDE DIAGRAMS

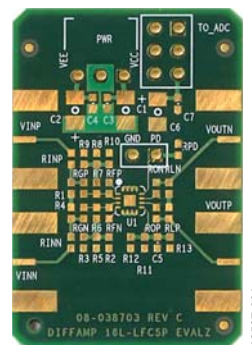


Figure 1. Evaluation Board, Component Side



Figure 2. Evaluation Board, Circuit Side

EVALUATION BOARD SCHEMATIC, ASSEMBLY DRAWINGS, AND LAYOUT PATTERNS

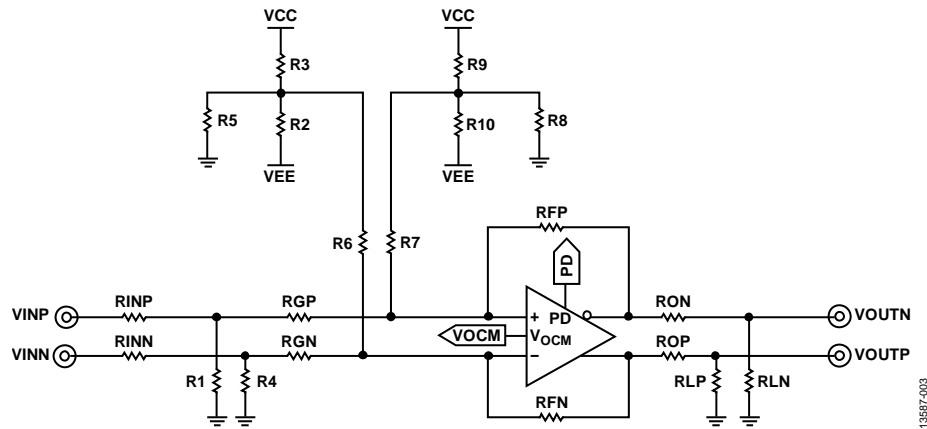


Figure 3. Differential Amplifier Evaluation Board Schematic

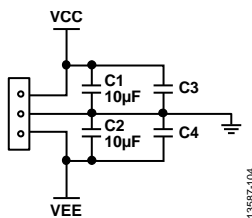


Figure 4. Supplies Interface

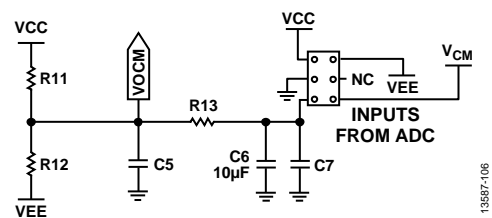
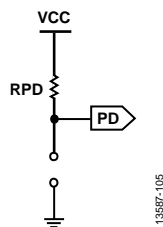
Figure 6. V_{OCM} Interface

Figure 5. Power-Down Interface



The schematic diagram illustrates the ADXL055 evaluation board. At the top, a PWR connector provides power to the system. A FROM_ADC connector is located near the top right. The central component is the ADXL055 chip, which has several pins labeled: R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, C1, C2, C3, C4, C5, C6, C7, and U1. The board features four BNC connectors for signal input/output: VINP and VINN on the left, and VOUTP and VOUTN on the right. A central PD connector is also shown. The ADXL055 chip has pins labeled R1 through R13, C1 through C7, and U1.

The logo for Analog Devices, featuring a square icon with a right-pointing triangle inside, followed by the text "ANALOG DEVICES". Below the logo is a crossed-out symbol of a person sitting at a desk with a computer, and a thick horizontal bar. At the bottom is a circular symbol with a stylized 'e' and arrows, indicating a refresh or update action.

13587-006

ORDERING INFORMATION

BILL OF MATERIALS

Table 1.

Qty.	Reference Designator	Description	Package
1	VCC, VEE, GND	Power connector	3-pin power connector
1	PD	Power-down/disable pin	2-pin header
3	C1, C2, C6	10 μ F	3528
4	C3, C4, C5, C7	Capacitor, user defined	C0603
4	VINP, VINN, VOUTP, VOUTN	Side launch SMA connector	SMA/SMT
1	ADC dc interface	ADC dc Interface	6-pin connector
11	R1NP, R1NN, RGP, RGN, RFP, RFN, ROP, RON, RLP, RLN, RPD	Resistor, user defined	R0603
13	R1 to R13	Resistor, user defined	R0603
1	Device under test (DUT)	Amplifier	16-lead LFCSP



ESD Caution

ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

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