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Evaluation Board for High Speed Op Amps Offered in 5-Lead SOT-23 and 6-Lead SOT-23 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., 5-lead and 6-lead, SOT-23 high speed evaluation board is designed to help customers quickly prototype new op amp circuits and reduce design time. The evaluation board can be used with almost any Analog Devices op amp in various configurations and applications. The evaluation board is a bare board (that is, there are no components or amplifiers soldered to the board, these must be ordered separately). Figure 1 shows the component side of the evaluation board, and Figure 2 shows the circuit side of the evaluation board.

The evaluation board is a 2-layer PCB that accepts SMA connectors on the input and output for efficient connection to test equipment. The evaluation board can also accommodate an SMA connector for the disable pin.

The ground plane, component placement, and supply bypassing are laid out to minimize parasitic inductances and capacitances. The evaluation board components are primarily SMT 1206 case size, with the exception of the electrolytic bypass capacitors (C1, C4), which are 3528 case size.

There are two options for supply bypassing. The first is connecting additional shunt capacitors (C2, C5) in parallel with the electrolytic capacitors (C1, C4) from each supply to ground. This technique of power supply bypassing provides wideband rejection of unwanted noise on the supply lines.

The second approach to supply bypassing is to connect one capacitor (C6) between the supply rails. This method uses fewer components and can improve the PSRR at higher frequencies. Optimal bypassing is circuit dependent and therefore must be evaluated by the designer.

Figure 3 shows the evaluation board schematic. Figure 4 and Figure 6 show the evaluation board assembly drawings. The PCB layout pattern for the component side and the circuit side is shown in Figure 5 and Figure 7.

EVALUATION BOARD, COMPONENT AND CIRCUIT SIDES

NOTES
1. THE EVALUATION BOARD SILKSCREEN PART NUMBER LABELING ON YOUR BOARD MAY BE DIFFERENT FROM WHAT IS SHOWN HERE.

08981-001

Figure 1. Component Side of Evaluation Board

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1. THE EVALUATION BOARD SILKSCREEN PART NUMBER LABELING ON YOUR BOARD MAY BE DIFFERENT FROM WHAT IS SHOWN HERE.

08981-002

Figure 2. Circuit Side of Evaluation Board

TABLE OF CONTENTS

REVISION HISTORY

5/11—Rev. 0 to Rev. A

Changes to User Guide Title, General Description Section, Figure 1 Caption, and Figure 2 Caption 1
Changed Evaluation Board Schematic and Layout Section to Evaluation Board Schematic Section 3
Changes to Figure 3 Caption 3
Added Evaluation Board Assembly Drawings and Layout Patterns Section 4
Changes to Figure 4 through Figure 7 4

4/10—Revision 0: Initial Version

EVALUATION BOARD SCHEMATIC

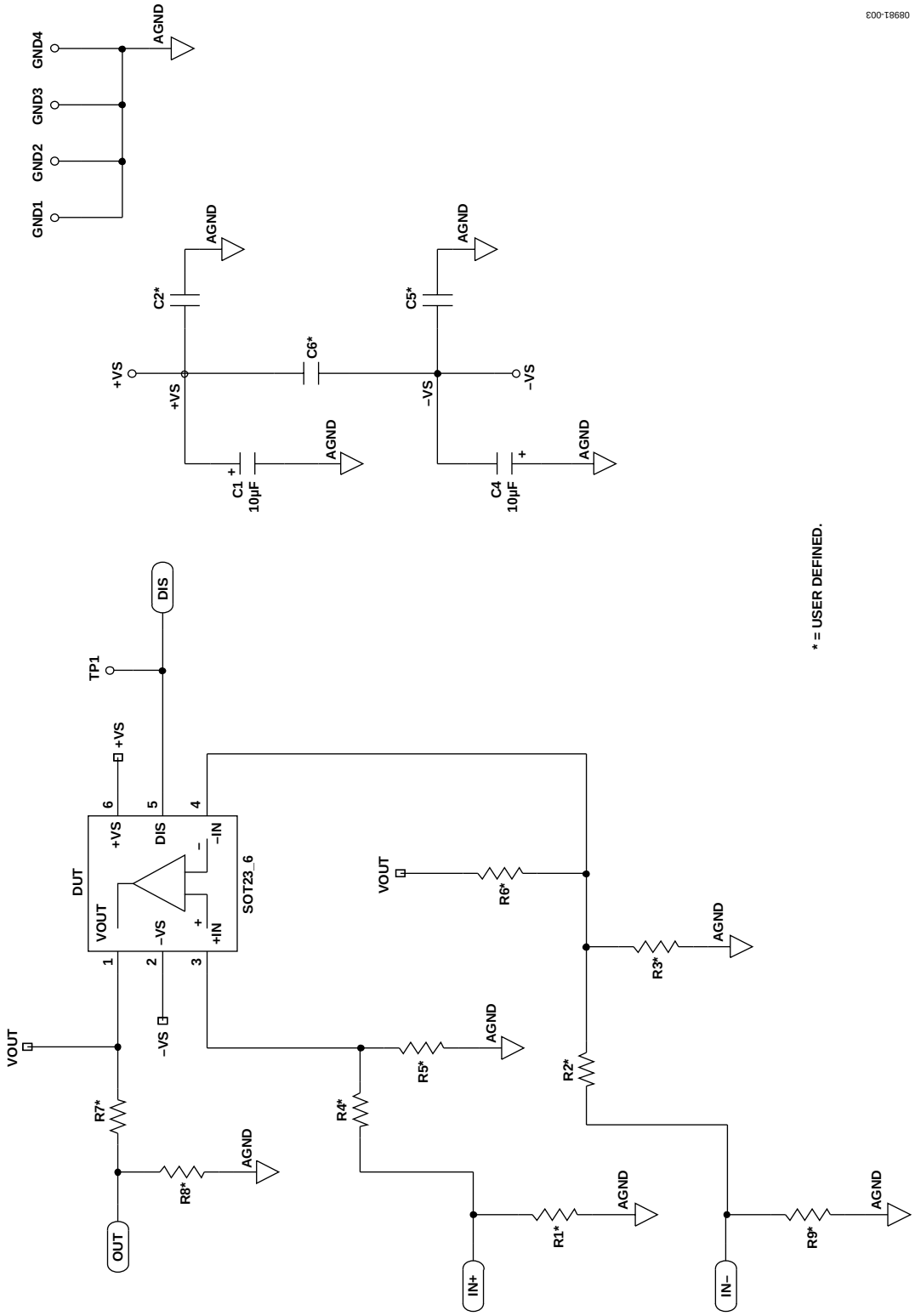

Figure 3. 5-Lead SOT-23 and 6-Lead SOT-23 Evaluation Board Schematic

EVALUATION BOARD ASSEMBLY DRAWINGS AND LAYOUT PATTERNS

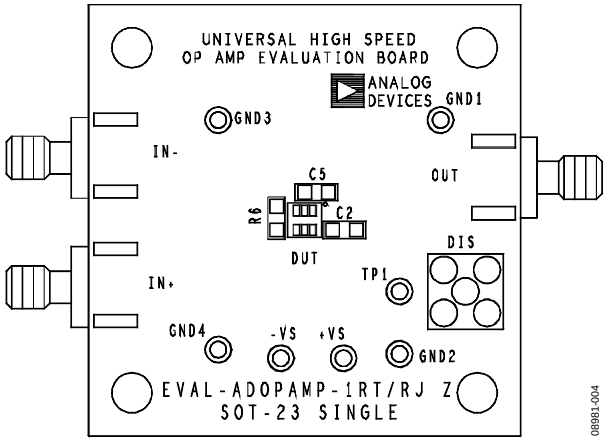

Figure 4. Board Assembly Drawing, Component Side

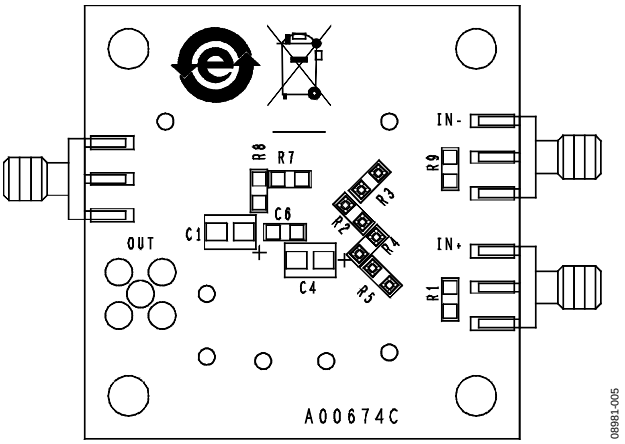

Figure 6. Board Assembly Drawing, Circuit Side

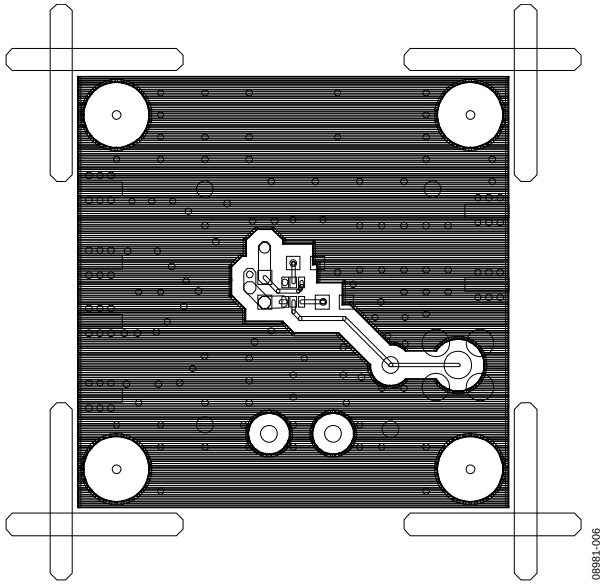

Figure 5. Board Layout Pattern, Component Side

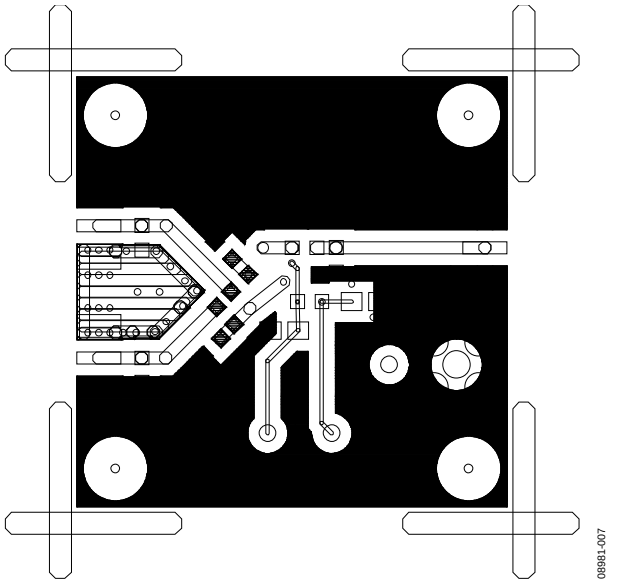

Figure 7. Board Layout Pattern, Circuit Side

ORDERING INFORMATION

BILL OF MATERIALS

Table 1.

Quantity	Reference Designator	Description	Package
7	+VS, –VS, GND1, GND2, GND3, GND4, TP1	Test point	TP1
2	C1, C4	10 µF capacitor	C3528
3	C2, C5, C6	User-defined capacitor	C1206
1	DIS	SMA_HD	SMACON
1	DUT	5-Lead SOT-23 or 6-lead SOT-23	SOT-23-5 or SOT-23-6
3	IN+, IN–, OUT	SMA/SMT	SMA/SMT
9	R1 to R9	User-defined resistor	R1206

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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.

UG08981-0-5/11(A)

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