Evaluation Board for ADG824, 0.5 Ω CMOS, 1.65 V to 3.6 V, Dual SPDT/2:1 Mux in Mini LFCSP

EVAL-ADG824

FEATURES

Full featured evaluation board for the ADG824
On-board audio connectors

GENERAL DESCRIPTION

This data sheet describes the evaluation board for the ADG824, which is a low voltage CMOS device that contains two independently selectable, single-pole, double-throw (SPDT) switches. The ADG824 offers ultralow on resistance of less than 0.7 Ω over the full temperature range.

Figure 1 shows the EVAL-ADG824. The ADG824 is soldered onto the evaluation board in a tiny 1.3 mm × 1.6 mm ultrathin LFCSP located in the center of the board and is designated as U1.

The evaluation kit contains a fully fitted PCB and a CD that contains the ADG824 data sheet and the EVAL-ADG824 data sheet. Refer to the ADG824 data sheet for full data on the part. Consult the ADG824 data sheet in conjunction with this data sheet when using the evaluation board.

CONNECTING SIGNALS TO THE BOARD

The board is fitted with three audio connectors that allow switching between audio devices. All signals applied to the switch can be monitored using the test points provided on the board.

EVALUATION BOARD

06754-001

Figure 1.

One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.
Tel: 781.329.4700 www.analog.com
Fax: 781.461.3113

TABLE OF CONTENTS

REVISION HISTORY

6/08—Revision 0: Initial Version

HARDWARE DESCRIPTION

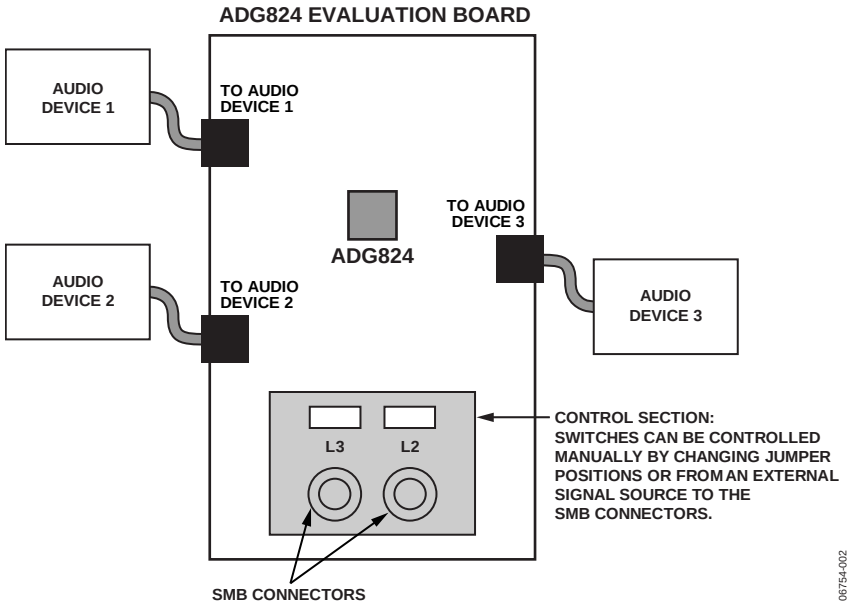

Figure 2. Evaluation Board Block Diagram

The ADG824 evaluation kit contains a fully fitted PCB and a CD that contains the ADG824 data sheet and the EVAL-ADG824 data sheet.

The evaluation board allows the user to switch between two audio sources or to switch an audio source between two speakers by using the on-board jumpers or by applying the correct control signals to the appropriate connectors. The following sections describe in detail the function of the connectors and links.

POWER SUPPLY

For convenience, a regulator supplies the ADG824 with a 3.3 V supply. A supply range of 3.3 V to 12 V can be connected to J6.

SWITCH CONTROL CONNECTORS

The ADG824 device offers a standard CMOS/LVTTL parallel interface consisting of two IN inputs. The IN1 and IN2 input pins control the switch state and operation mode of the ADG824. The evaluation board allows the user to control the signals required to set the logic levels applied to these pins by using the L2 and L3 links as described in Table 1 or by applying external signals to the SMB connectors, IN1 and IN2, as described in Table 2.

To control the ADG824 using the SMB connectors, L2 and L3 must be set to Position B. Note that there are 51 Ω termination resistors to GND at the IN1 and IN2 SMB connectors.

Table 1. Control via Link L2/Link L3

	Switch Status	
L2 and L3 Position	**Audio Device 1 Status**	**Audio Device 2 Status**
B	Inactive	Active
A	Active	Inactive

Table 2. Control via SMB Connector Settings

L2 and L3 Position	Switch Status—Audio Device Status
B	SMB High = Audio Device 2 Active SMB Low = Audio Device 1 Active

EVALUATION BOARD SCHEMATICS

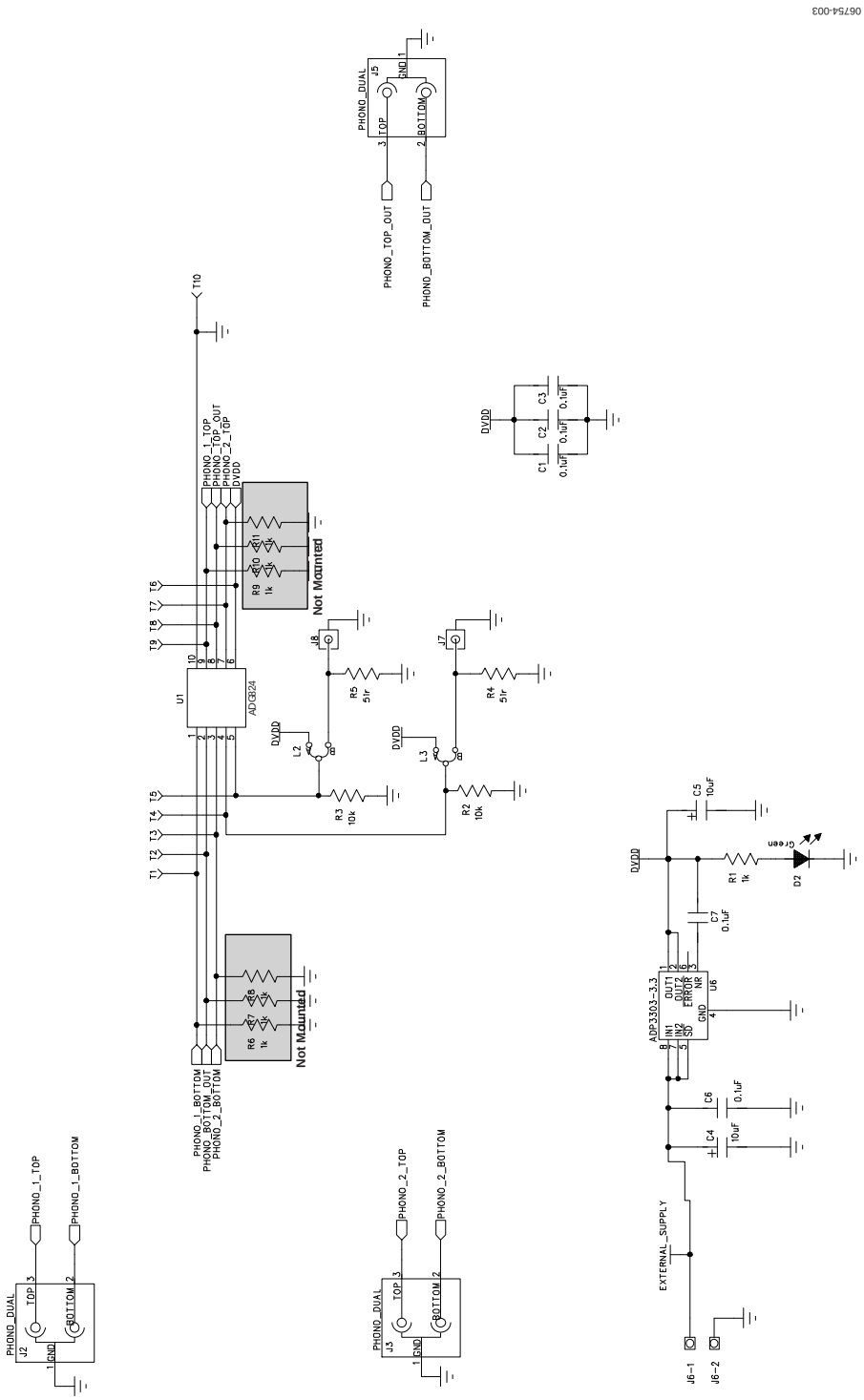

Figure 3. Evaluation Board Schematic

ADG824 SWITCH PINS, TEST POINTS, AND CONNECTIONS

Table 3.

Connector Name	Board Pin Mnemonic	Pin Number	ADG824 Mnemonic	Test Point
J2	Phono Top	1	S2A	T9
	Phono Bottom	2	S1A	T1
J3	Phono Top	1	S2B	T7
	Phono Bottom	2	S1B	T3
J6-1	External 5V	1	VDD	T6
J6-2	GND	2	GND	T10
J5	Phono Top	3	D2	T8
	Phono Bottom	2	D1	T2

PCB DRAWINGS

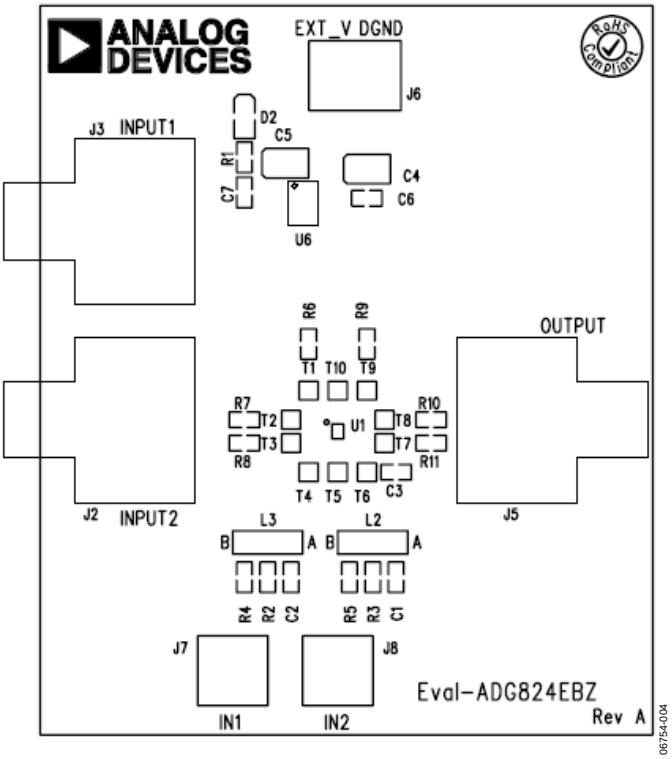

Figure 4. Silkscreen Image of the Board

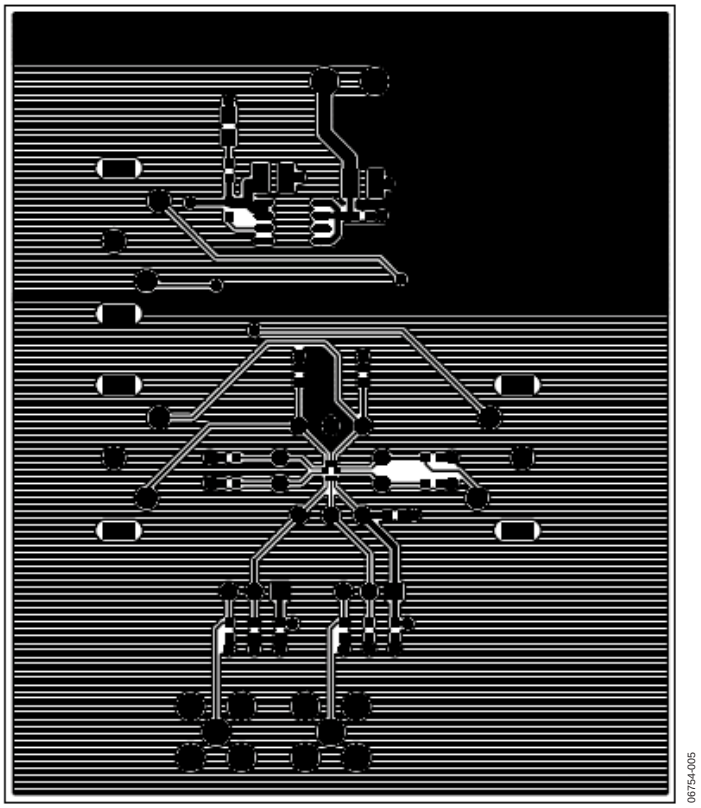

Figure 5. PCB Drawing Layer 1 (Top Layer of the Board)

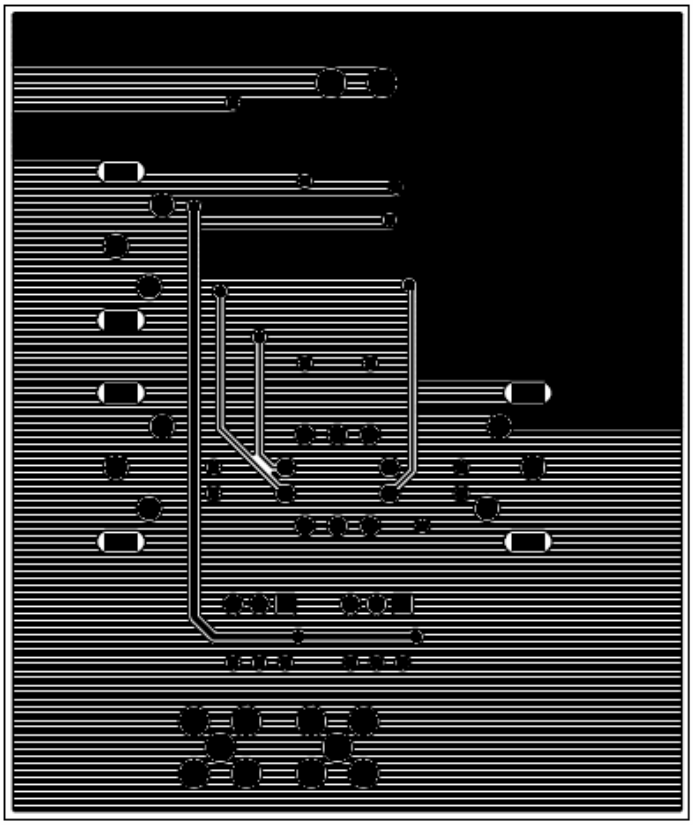

Figure 6. PCB Drawing Layer 2 (Bottom Layer)

ORDERING INFORMATION

COMPONENT'S LIST

Table 4.

Reference Designator	Description	Value	Supplier Name and Number
C1 to C3, C6, C7	Capacitor	0.1 µF	FEC 9406140
C4, C5	Capacitor+	10 µF	FEC 1190117
D2	LED		FEC 8529906
J2, J3	Phono		Digi-Key CP-1435-ND
J6	CON\POWER		FEC 151785
J7, J8	SMB		FEC 1019324
J5	Phono		Digi-Key CP-1435-ND
L2 to L3	JUMPER2\SIP3		FEC 3291698 and FEC 150411
R1	Resistor	1 kΩ	FEC 1160322
R2, R3	Resistor	10 kΩ	FEC 1160359
R4, R5	Resistor	51 Ω	FEC 9331336
T1 to T10	Test point		FEC 8731128
U1	ADG824		Analog Devices, Inc., ADG824
U6	ADP3303-3.3		Analog Devices ADP3303ARZ-3.3

ORDERING GUIDE

Model	Description
EVAL-ADG824EBZ[1]	Evaluation Board

[1] Z = RoHS Compliant Part.

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.

EB06754-0-6/08(0)