



# Evaluation Board for ADG824, 0.5 $\Omega$ 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  $\Omega$  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  $\times$  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

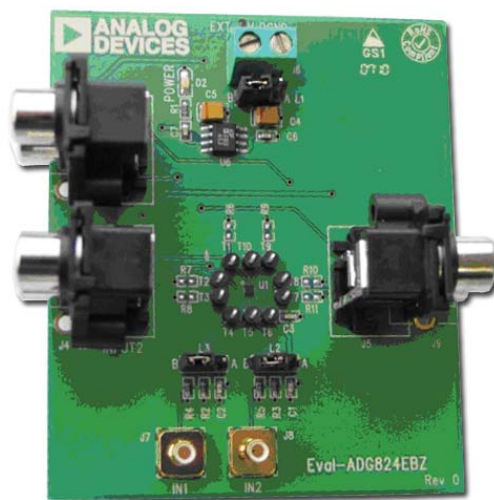


Figure 1.

#### Rev. 0

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One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.  
Tel: 781.329.4700 [www.analog.com](http://www.analog.com)  
Fax: 781.461.3113 ©2008 Analog Devices, Inc. All rights reserved.

TABLE OF CONTENTS

|                                      |   |                                                        |   |
|--------------------------------------|---|--------------------------------------------------------|---|
| Features .....                       | 1 | Evaluation Board Schematics.....                       | 4 |
| General Description .....            | 1 | ADG824 Switch Pins, Test Points, and Connections ..... | 5 |
| Connecting Signals to the Board..... | 1 | PCB Drawings.....                                      | 6 |
| Evaluation Board .....               | 1 | Ordering Information.....                              | 8 |
| Revision History .....               | 2 | Component's List.....                                  | 8 |
| Hardware Description.....            | 3 | Ordering Guide .....                                   | 8 |
| Power Supply.....                    | 3 | ESD Caution.....                                       | 8 |
| Switch Control Connectors.....       | 3 |                                                        |   |

REVISION HISTORY

6/08—Revision 0: Initial Version

## HARDWARE DESCRIPTION

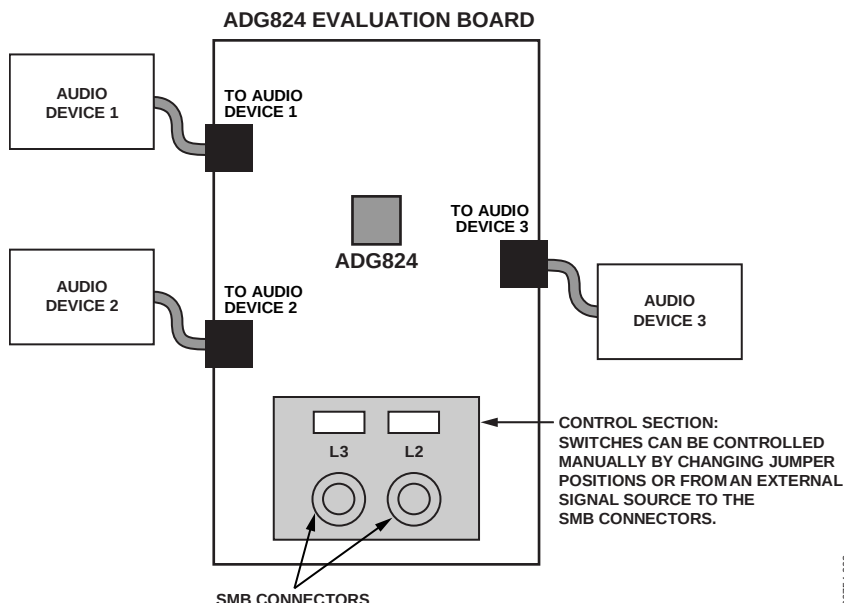


Figure 2. Evaluation Board Block Diagram

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  $\Omega$  termination resistors to GND at the IN1 and IN2 SMB connectors.

Table 1. Control via Link L2/Link L3

| L2 and L3 Position | Switch Status         |                       |
|--------------------|-----------------------|-----------------------|
|                    | 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<br>SMB Low = Audio Device 1 Active |

Rev. 0 | Page 4 of 8

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

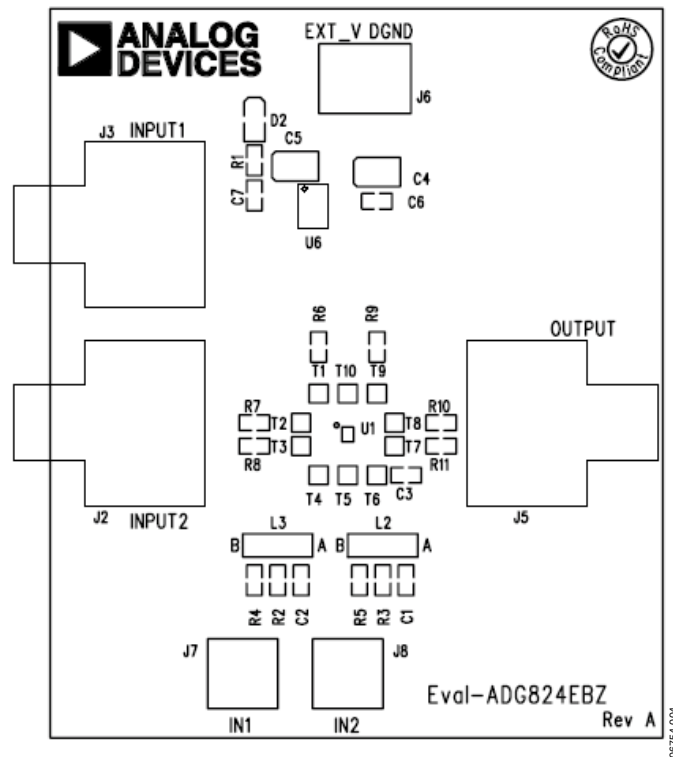


Figure 4. Silkscreen Image of the Board

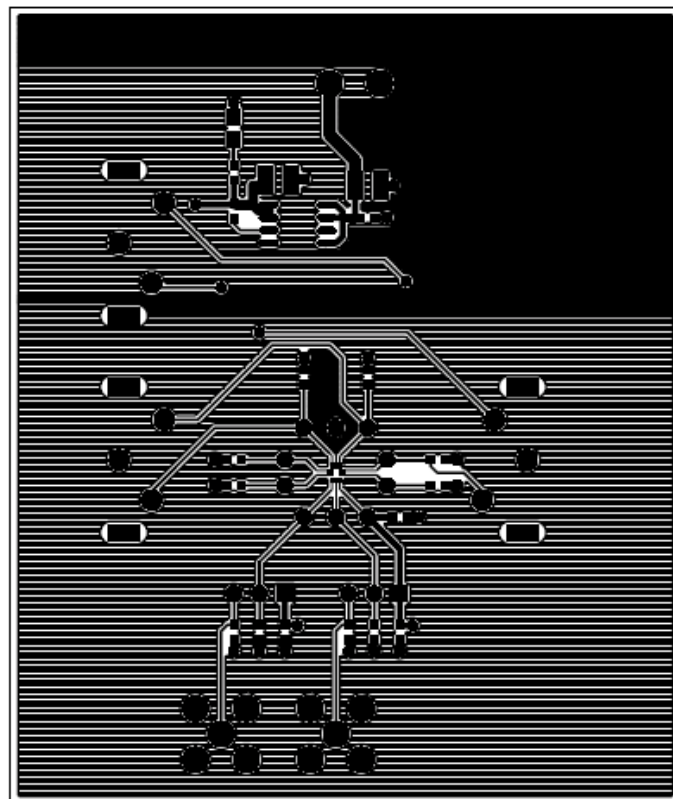


Figure 5. PCB Drawing Layer 1 (Top Layer of the Board)

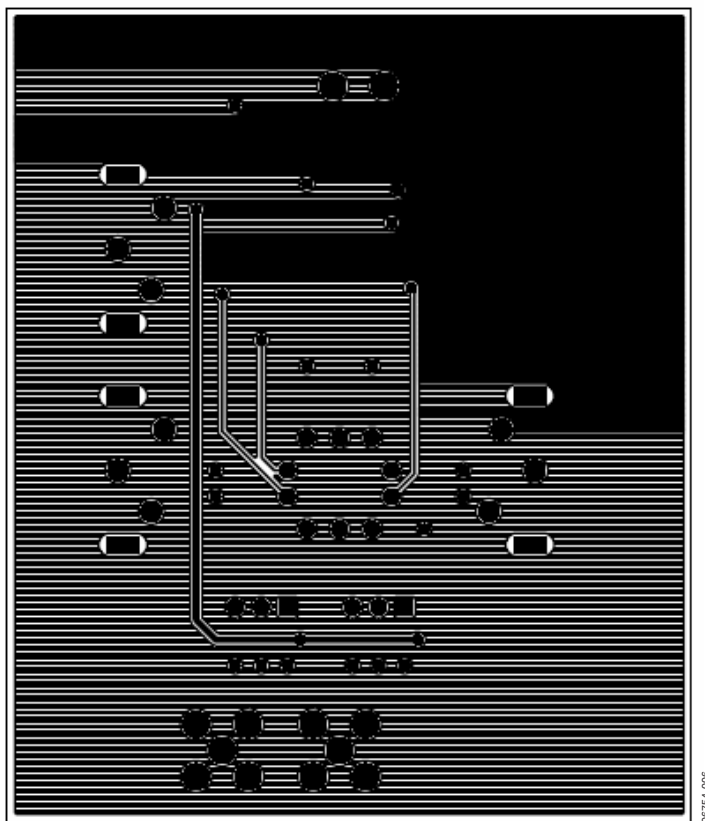


Figure 6. PCB Drawing Layer 2 (Bottom Layer)

# EVAL-ADG824

## ORDERING INFORMATION

### COMPONENT'S LIST

Table 4.

| Reference Designator | Description  | Value         | Supplier Name and Number      |
|----------------------|--------------|---------------|-------------------------------|
| C1 to C3, C6, C7     | Capacitor    | 0.1 $\mu$ F   | FEC 9406140                   |
| C4, C5               | Capacitor+   | 10 $\mu$ F    | 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 k $\Omega$  | FEC 1160322                   |
| R2, R3               | Resistor     | 10 k $\Omega$ | FEC 1160359                   |
| R4, R5               | Resistor     | 51 $\Omega$   | 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 <sup>1</sup> | Evaluation Board |

<sup>1</sup> 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.