AD8184 Evaluation Board

EVAL-AD8184EB

BOARD DESCRIPTION

The AD8184 evaluation board has been carefully laid out and tested to demonstrate the specified high speed performance of the devices. Figure 1 shows the schematic of the evaluation board. For ordering information, please refer to the Ordering Guide.

Figure 2 shows the silkscreen of the component side and Figure 4 shows the silkscreen of the solder side. Figures 3 and 5 show the layout of the component side and solder side respectively.

The evaluation board is provided with 49.9 Ω termination resistors on all inputs. This is to allow the performance to be evaluated at very high frequencies where 50 Ω termination is most popular. To use the evaluation board in video applications, the termination resistors should be replaced with 75 Ω resistors.

The FR4 board type has the following stripline dimensions: 60-mil width, 12-mil gap between center conductor and outside ground plane "island" and 62-mil board thickness.

The multiplexer output is loaded with a 4.99 kΩ resistor. For connection to external instruments, an oscilloscope probe adapter is provided. This allows direct connection of a FET probe to the board. For verification of data sheet specifications, use of a FET probe is recommended because of its low input capacitance. The probe adapter used on the board has the same footprint as SMA, SMB and SMC type connectors, allowing easy replacement if necessary.

The side-launched SMA connectors on the analog and digital inputs can also be replaced by top-mount SMA, SMB, or SMC type connectors. When using top-mount connectors, the stripline on the outside 1/8" of the board edge should be removed with an X-acto blade since this unused stripline acts as an open stub that could degrade the small-signal frequency response of the multiplexer.

Input termination resistor placement on the evaluation board is critical to reducing crosstalk. Each termination resistor is oriented so that the ground return currents flow counterclockwise to the ground plane "island." Although the direction of this ground current flow is arbitrary, it is important that no two input or output termination resistors share a connection to the same ground "island."

ORDERING GUIDE

Model	Package Description
AD8184-EB	Evaluation Board

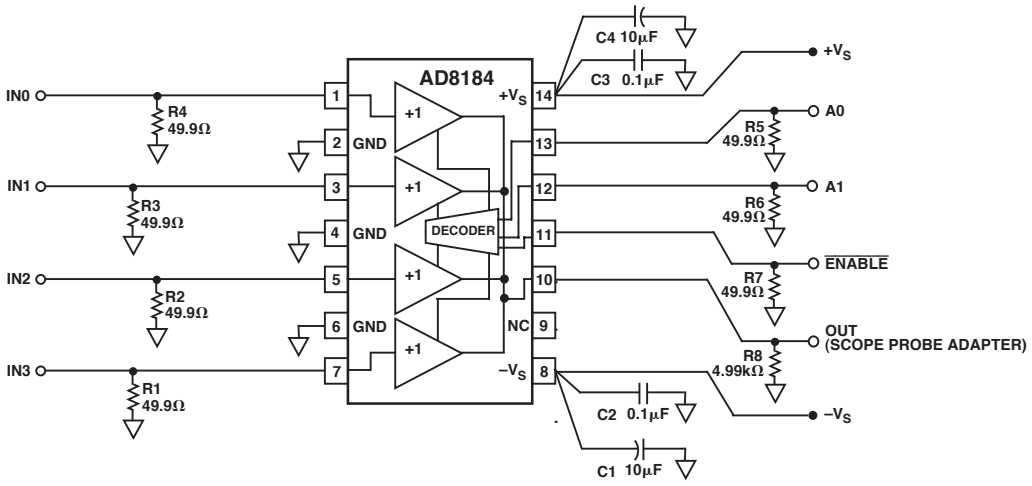

Figure 1. AD8184AR Evaluation Board

CAUTION

ESD (electrostatic discharge) sensitive device. Electrostatic charges as high as 4000 V readily accumulate on the human body and test equipment and can discharge without detection. Although the EVAL-AD8184EB features proprietary ESD protection circuitry, permanent damage may occur on devices subjected to high energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.

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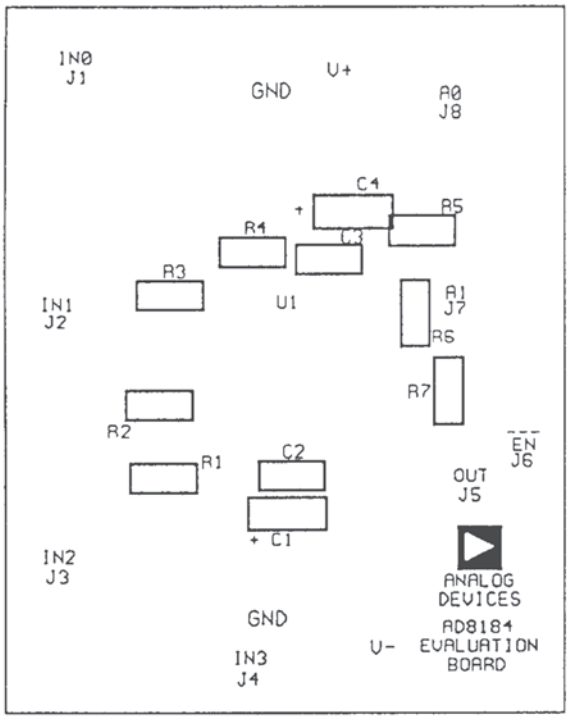

Figure 2. Component Side Silkscreen

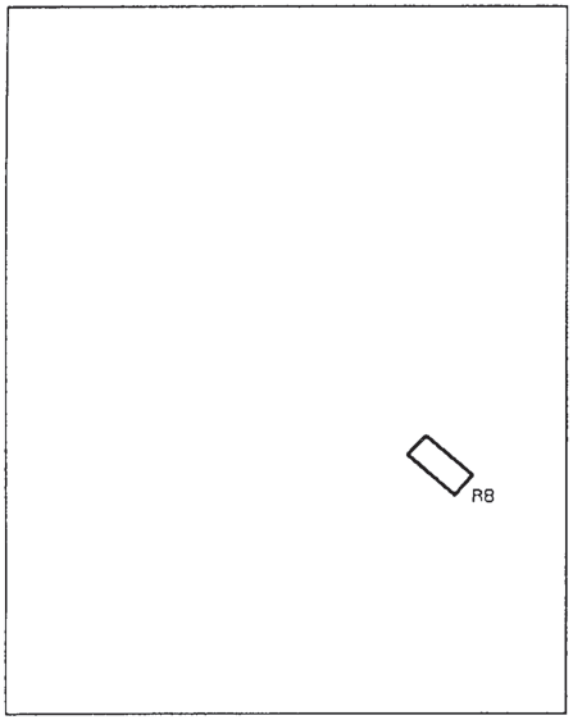

Figure 4. Solder Side Silkscreen

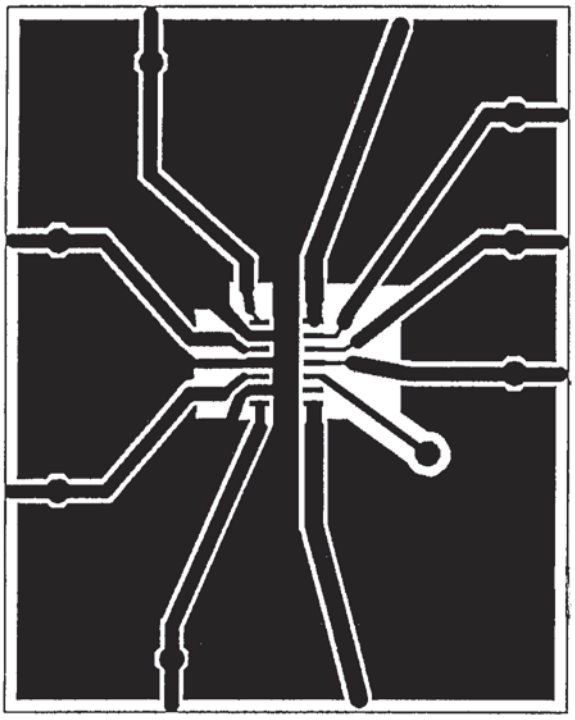

Figure 3. Board Layout (Component Side)

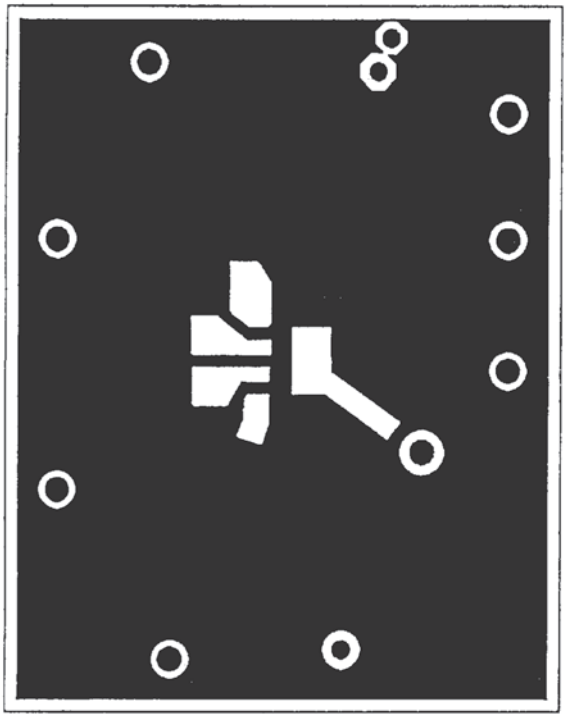

Figure 5. Board Layout (Solder Side)

C03286–0–12/02(0)

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