

6-Lead SOT-23 ADC Driver for the 8-/10-Lead Family of 14-/16-/18-Bit PulSAR ADC Evaluation Boards

FEATURES

- Enables quick breadboarding/prototyping
- User defined circuit configuration
- Edge-mounted header for easy connections
- Standalone power supply for power supply adjustments

COMPATIBLE PuLSAR EVALUATION BOARDS

8-lead PuLSAR evaluation board

16-bit ADCs: [AD7683](#), [AD7684](#), [AD7694](#)

10-lead PuLSAR evaluation board

14-bit ADCs: [AD7942](#), [AD7946](#)

16-bit ADCs: [AD7685](#), [AD7686](#), [AD7687](#), [AD7688](#), [AD7693](#),
[AD7980](#), [AD7983](#), [AD7988-5](#)

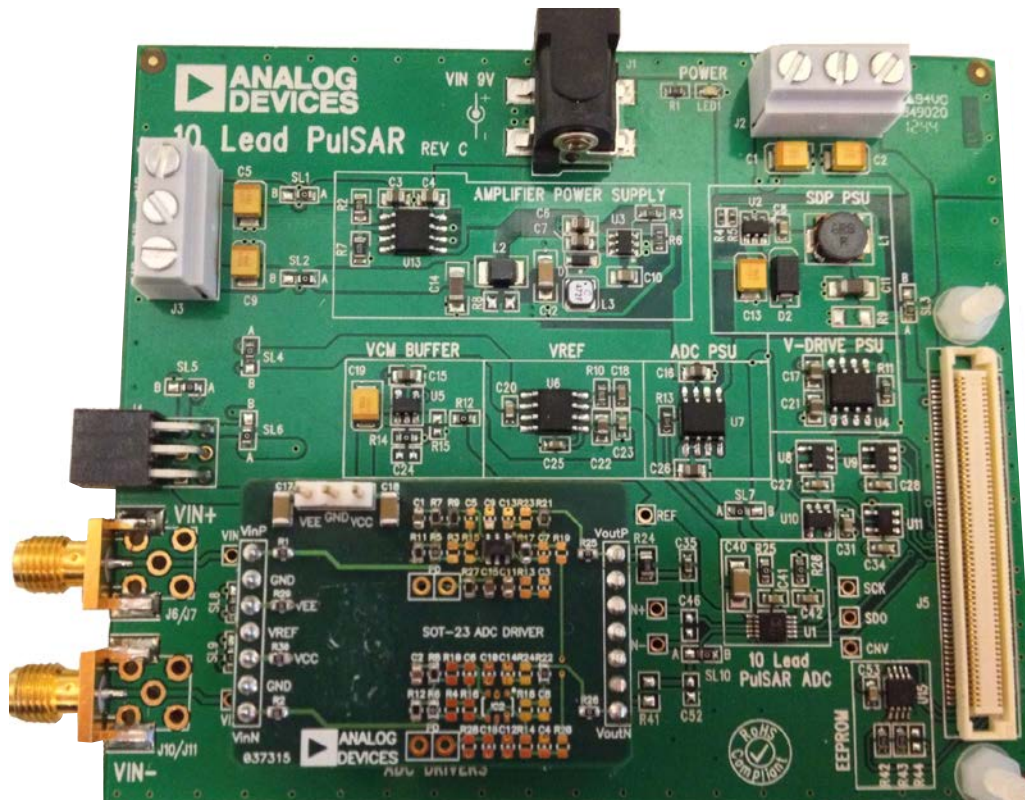
18-bit ADCs: [AD7690](#), [AD7691](#), [AD7982](#), [AD7984](#), [AD7989-5](#)

GENERAL DESCRIPTION

The Analog Devices, Inc., 6-lead SOT-23 ADC driver is used to evaluate the performance of amplifiers in an SOT package with the 8-/10-lead family of 14-/16-/18-bit PuLSAR® ADC evaluation boards. This add-on board can easily be inserted on either side of the ADC evaluation board using the 7-pin header. Figure 1 shows the mounted SOT-23 ADC driver on the ADC evaluation board. Figure 5 and Figure 6 show the bare SOT-23 ADC driver—component side and solder side, respectively.

Figure 2 shows the evaluation board schematic. Figure 3 shows how the user can configure the 6-lead SOT-23 ADC driver to drive a single-ended ADC. Figure 4 shows how the user can configure the 6-lead SOT-23 ADC driver to drive a single-ended signal into a differential ADC. The bill of materials is listed in Table 1.

MOUNTED 6-LEAD SOT-23 ADC DRIVER



NOTES

1. TO ROUTE THE INPUTS, OUTPUTS, AND SUPPLIES ONTO THE 6-LEAD SOT-23 ADC DRIVER PROPERLY, R20, R21, R28, R35, R36, AND R40 ON THE ADC EVALUATION BOARD MUST BE REMOVED. FOR MORE INFORMATION, SEE THE UG-340 FOR THE ADC EVALUATION BOARD SCHEMATICS.

Figure 1. A 6-Lead SOT-23 ADC Driver Mounted onto a 10-Lead PuLSAR ADC Evaluation Board

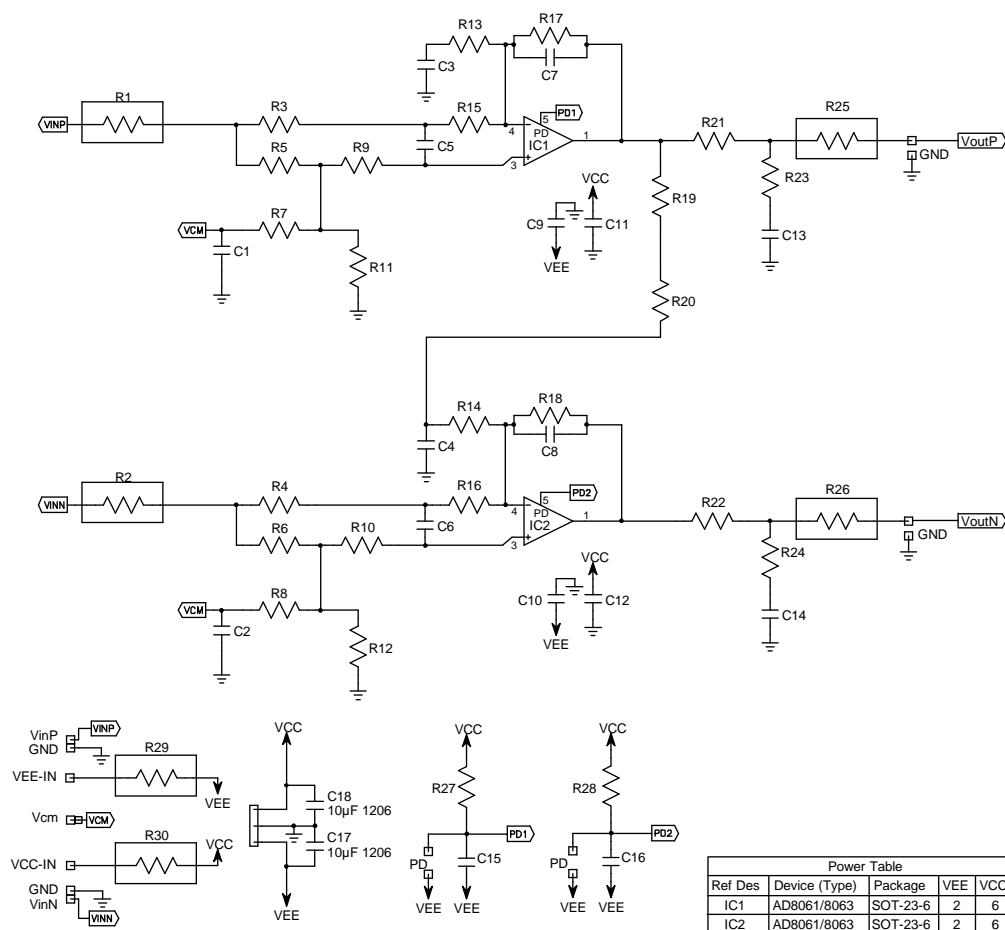
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REVISION HISTORY

5/14—Revision 0: Initial Version

EVALUATION BOARD SCHEMATICS AND ARTWORK



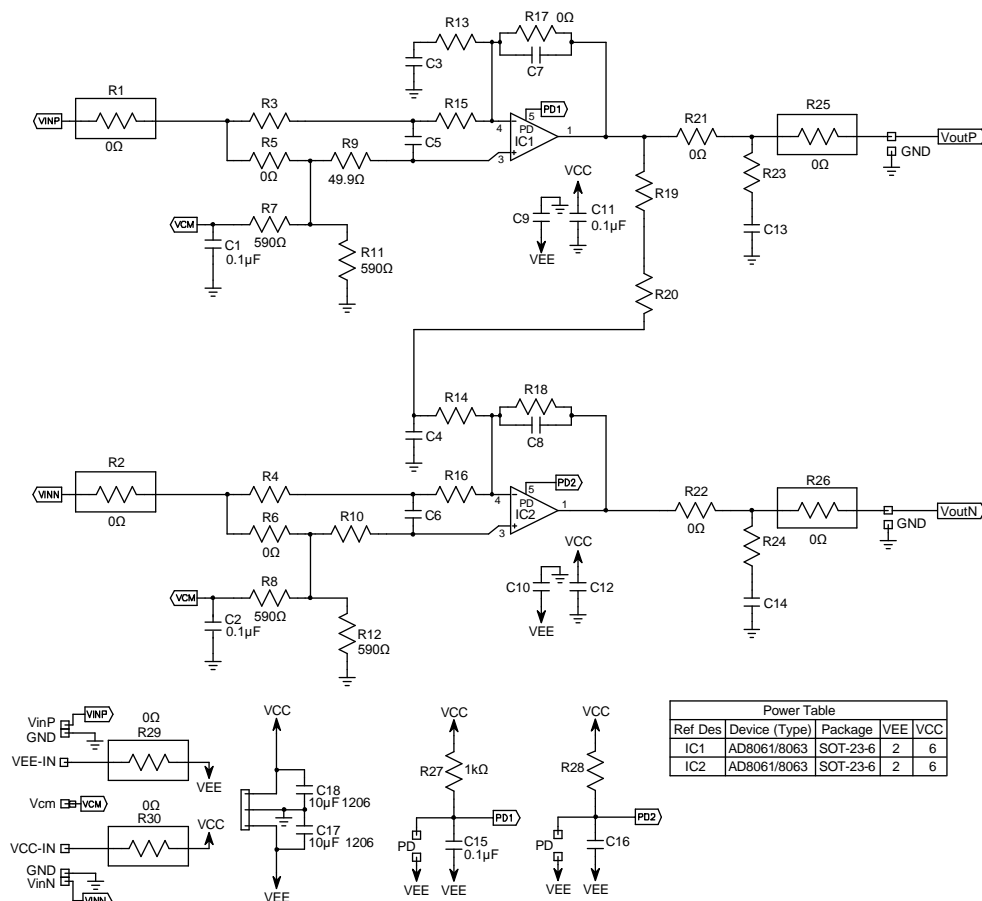
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TO ROUTE THE INPUTS, OUTPUTS, AND SUPPLIES ONTO THE 6-LEAD SOT-23 ADC DRIVER PROPERLY, R20, R21, R28, R35, R36, AND R40 ON THE ADC EVALUATION BOARD MUST BE REMOVED. FOR MORE INFORMATION, SEE THE UG-340 FOR THE ADC EVALUATION BOARD SCHEMATICS.

Figure 2. 6-Lead SOT-23 ADC Driver Schematic

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POPULATED SCHEMATICS

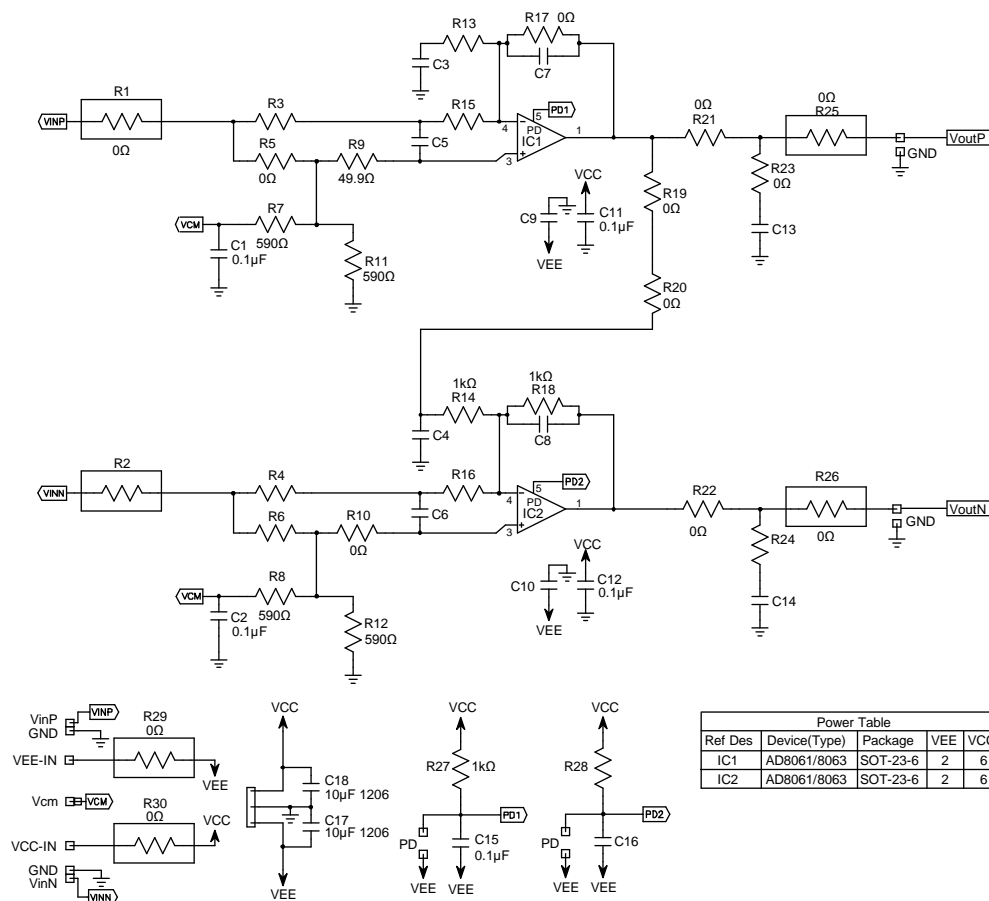


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TO ROUTE THE INPUTS, OUTPUTS, AND SUPPLIES ONTO THE 6-LEAD SOT-23 ADC DRIVER PROPERLY, R20, R21, R28, R35, R36, AND R40 ON THE ADC EVALUATION BOARD MUST BE REMOVED. FOR MORE INFORMATION, SEE THE UG-340 FOR THE ADC EVALUATION BOARD SCHEMATICS.

Figure 3. Configuring the 6-Lead SOT-23 ADC Driver to Drive a Single-Ended ADC

12232-005

**NOTES**

TO ROUTE THE INPUTS, OUTPUTS, AND SUPPLIES ONTO THE 6-LEAD SOT-23 ADC DRIVER PROPERLY, R20, R21, R28, R35, R36, AND R40 ON THE ADC EVALUATION BOARD MUST BE REMOVED. FOR MORE INFORMATION, SEE THE UG-340 FOR THE ADC EVALUATION BOARD SCHEMATICS.

Figure 4. Configuring the 6-Lead SOT-23 ADC Driver to Drive a Single-Ended Signal into a Differential ADC

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EVALUATION BOARD LAYOUT PATTERN

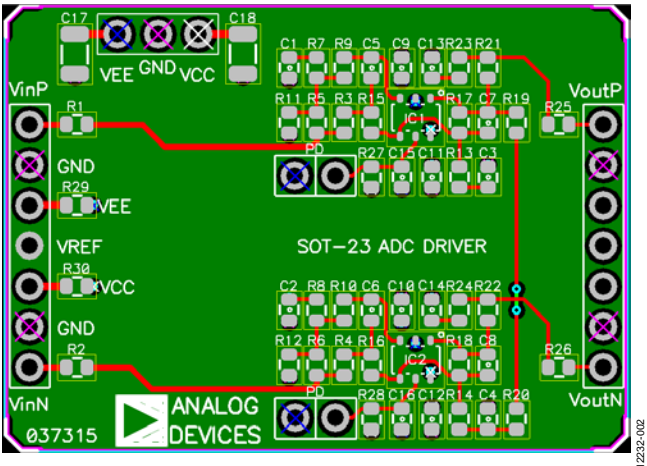


Figure 5. 6-Lead SOT-23 ADC Driver, Component Side

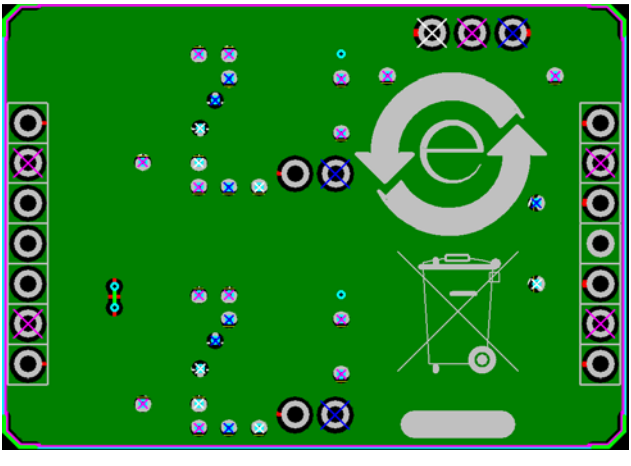


Figure 6. 6-Lead SOT-23 ADC Driver, Solder Side

BILL OF MATERIALS

Table 1.

Quantity	Reference Designator	Description	Package
3	VEE, GND, VCC	3-pin power supply header	3-pin header
8	VinP, VinN, GND, VCC, VEE, VREF, VOUTP, VOUTN	Supply input and output connections	7-pin header
1	PD	Jumper to control power-down	2-pin jumper
2	C17, C18	10 μ F capacitor	1206
16	C1 to C16	Capacitor, user defined	0603
1	DUT	See the amplifier data sheet for SOT-23 package dimensions	SOT-23
30	R1 to R30	Resistor, user defined	R0603

NOTES

**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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