

Evaluating the **ADXL373** Micropower, 3-Axis, $\pm 400\text{ g}$, Digital Output, MEMS Accelerometer

FEATURES

- 2 sets of spaced vias for population of the 5-pin headers
- Simply attached to prototyping board or PCB
- Small size and board stiffness minimize impact on the system and acceleration measurements

EQUIPMENT NEEDED

External host processor

DOCUMENTS NEEDED

ADXL373 data sheet

GENERAL DESCRIPTION

The EVAL-ADXL373Z is a simple evaluation board that allows quick evaluation of the performance of the ADXL373 micropower, 3-axis, $\pm 400\text{ g}$, digital output, microelectromechanical systems (MEMS) accelerometer.

The EVAL-ADXL373Z is ideal for evaluation of the ADXL373 in an existing system because the stiffness and the small size of the evaluation board minimize the effect of the board on both the system and acceleration measurements.

For full details on the ADXL373, see the ADXL373 data sheet, which should be consulted in conjunction with this user guide when using these evaluation boards.

PRINTED CIRCUIT BOARD LAYOUT

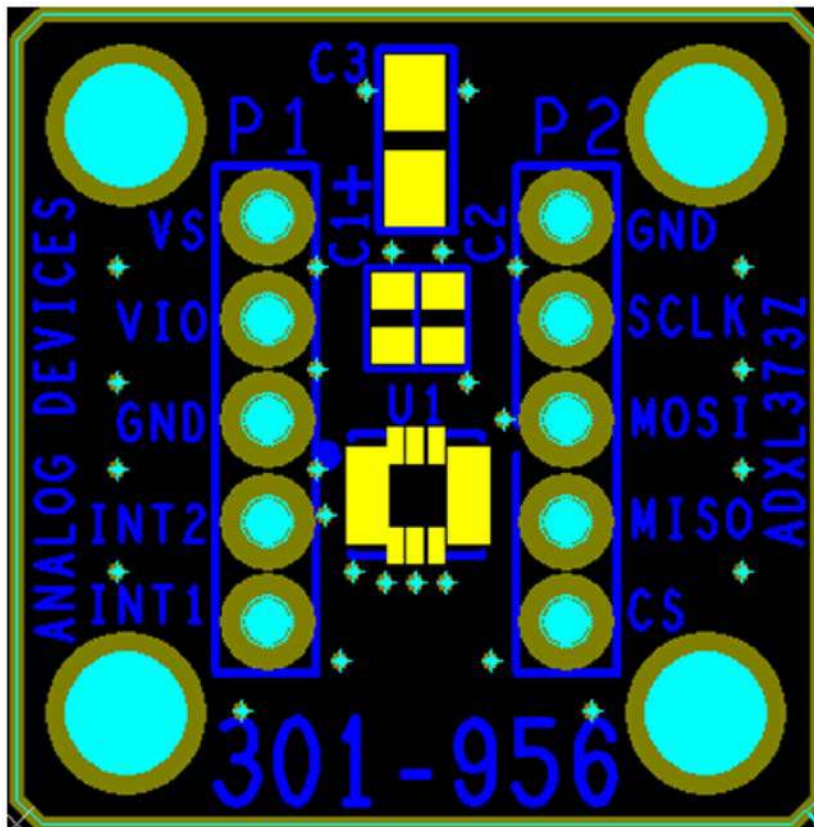


Figure 1.

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REVISION HISTORY

4/2021—Revision 0: Initial Version

EVALUATION BOARD HARDWARE

The EVAL-ADXL373Z has two sets of 0.1 inch spaced vias for population of the 5-pin headers to provide access to all power and signal lines. The vias or headers allow the EVAL-ADXL373Z to be attached either to a prototyping board (breadboard) or to a printed circuit board (PCB) in an existing system. Four holes are provided in the corners of the board for mechanical attachment of the EVAL-ADXL373Z to the application. An external host processor is required for communication with the device.

The dimensions of the EVAL-ADXL373Z are 20 mm × 20 mm. The four mounting holes are set to 15 mm × 15 mm at the corners of the PCB.

CIRCUIT DESCRIPTION

The PCB layout of the EVAL-ADXL373Z is shown in Figure 1. The EVAL-ADXL373Z is equipped with three factory installed capacitors for bypass: two 0.1 μ F capacitors (C1 and C2) and a 10 μ F capacitor (C3). C2 and C3 are VS bypass capacitors for

reducing analog supply noise, and C1 (located between VDDI/O and GND) is for reducing the digital clocking noise.

A schematic of the EVAL-ADXL373Z is shown in Figure 2. See the [ADXL373](#) data sheet for information on configuring the accelerometer following its connection to the application host processor.

HANDLING CONSIDERATIONS

The EVAL-ADXL373Z is not reverse polarity protected. Reversing the V_S or $V_{DDI/O}$ supply and GND pins can cause damage to the ADXL373.

Dropping the EVAL-ADXL373Z on a hard surface can generate several thousand g of acceleration, which can exceed the absolute maximum limits found in the ADXL373 data sheet. See the ADXL373 data sheet for additional information.

EVALUATION BOARD SCHEMATIC

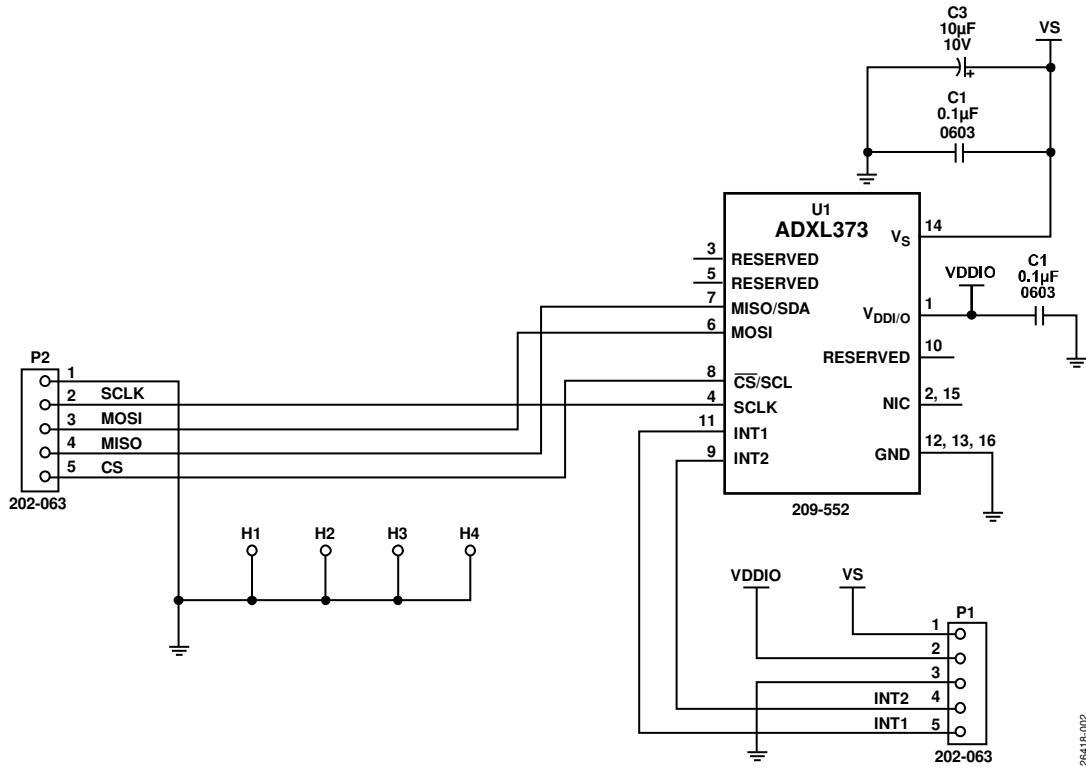


Figure 2. EVAL-ADXL373Z Schematic

284-18-002

ORDERING INFORMATION

BILL OF MATERIALS

Table 1.

Qty	Reference Designator	Description	Manufacturer	Part Number
1	U1	Micropower, 3-axis, ±400 g, digital output, MEMS accelerometer	Analog Devices, Inc.	ADXL373BCCZ
2	C1 and C2	0.1 µF ceramic capacitors, 50 V, 10%, X7R	CAL-CHIP	GMC10X7R104K50NTLF
1	C3	10 µF tantalum capacitor, 10 V, 10%	CAL-CHIP	TCKIA106ATL
2	P1 and P2	Headers, male, nonshrouded, 1 × 5, 0.1" spacing	Adam Tech	PH1-05-UA



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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