

## Ultralow Power, $\pm 2\text{ g}/\pm 4\text{ g}/\pm 8\text{ g}$ Digital Accelerometer Breakout Board

### FEATURES

- 2 sets of spaced vias for population of 5-pin headers
- Easily 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

[ADXL362](#) data sheet

### GENERAL DESCRIPTION

The [EVAL-ADXL362Z](#) is a simple evaluation board that allows quick evaluation of the performance of the [ADXL362](#) ultralow power, 3-axis, digital output MEMS accelerometer. The [EVAL-ADXL362Z](#) is ideal for evaluation of the [ADXL362](#) 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.

### PRINTED CIRCUIT BOARD LAYOUT

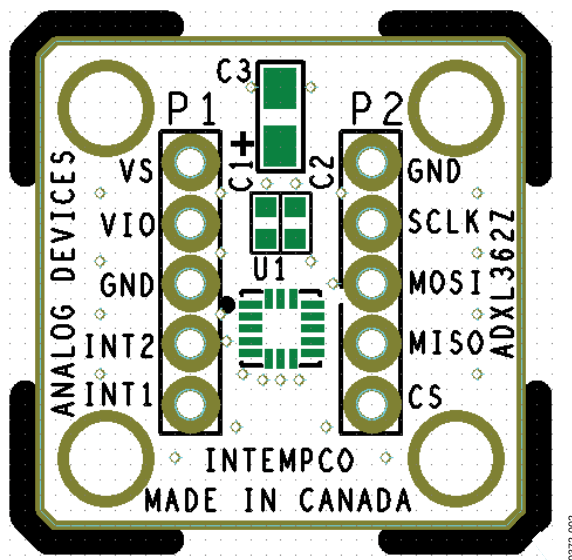


Figure 1.

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REVISION HISTORY

9/12—Revision 0: Initial Version

## EVALUATION BOARD HARDWARE

The [EVAL-ADXL362Z](#) has two sets of 0.1 inch spaced vias for population of 5-pin headers to provide access to all power and signal lines. The vias or headers allow the evaluation board 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-ADXL362Z](#) to the application. An external host processor is required for communication to the part.

The dimensions of the [EVAL-ADXL362Z](#) are 20 mm × 20 mm. The four mounting holes are set 15 mm × 15 mm at the corners of the PCB.

### CIRCUIT DESCRIPTION

The PCB layout of the [EVAL-ADXL362Z](#) is shown in Figure 1. The [EVAL-ADXL362Z](#) is equipped with three factory installed capacitors for bypass: two 0.1 μF capacitors (C1 and C2) and a 10 μF capacitor (C3). C2 and C3 are VS bypass capacitors for

reducing analog supply noise and C1 (located between VDDIO and GND) is for reducing digital clocking noise.

The schematic of the [EVAL-ADXL362Z](#) is shown in Figure 2. See the [ADXL362](#) data sheet for information on configuring the accelerometer following its connection to the application host processor.

### HANDLING CONSIDERATIONS

The [EVAL-ADXL362Z](#) is not reverse polarity protected. Reversing the VS or VDDIO supply and GND pins can cause damage to the [ADXL362](#).

Dropping the [EVAL-ADXL362Z](#) on a hard surface can generate several thousand g of acceleration, which may exceed the data sheet absolute maximum limits. See the [ADXL362](#) data sheet for more information.

## EVALUATION BOARD SCHEMATICS AND ARTWORK

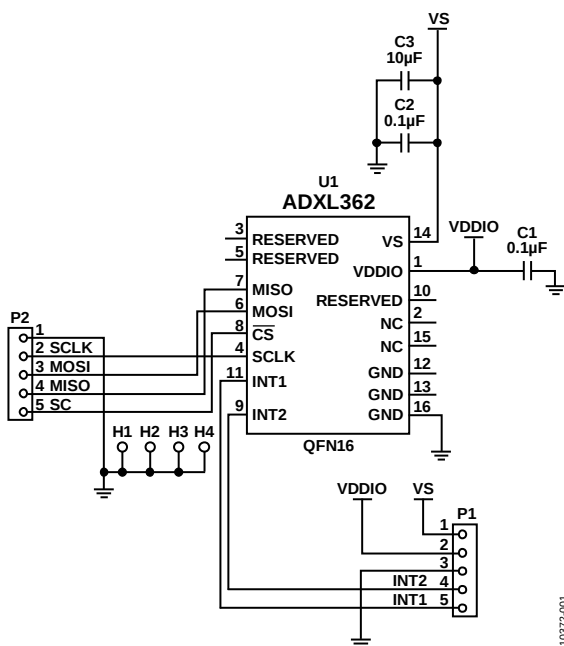


Figure 2. EVAL-ADXL362Z Schematic

10372-001

## ORDERING INFORMATION

### BILL OF MATERIALS

Table 1.

| Item | Qty | Reference Designator | Description                                   | Manufacturer         | Part Number        |
|------|-----|----------------------|-----------------------------------------------|----------------------|--------------------|
| 1    | 1   | U1                   | Ultralow power MEMS accelerometer             | Analog Devices, Inc. | ADXL362BCCZ-ENG    |
| 2    | 2   | C1, C2               | 0.1 $\mu$ F ceramic capacitor, 50 V, 10%, X7R | CAL-CHIP             | GMC10X7R104K50NTLF |
| 3    | 1   | C3                   | 10 $\mu$ F tantalum capacitor, 10 V, 10%      | CAL-CHIP             | TCKIA106ATL        |

### RELATED LINKS

| Resource                        | Description                                          |
|---------------------------------|------------------------------------------------------|
| <a href="#">ADXL362</a>         | Product page, <a href="#">ADXL362</a>                |
| <a href="#">EVAL-ADXL362Z</a>   | <a href="#">ADXL362</a> breakout board page          |
| <a href="#">EVAL-ADXL362Z-M</a> | Ultralow power inertial sensor evaluation board page |

**NOTES**

## NOTES

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**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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