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3-Axis, ±200 *g* Digital Accelerometer Evaluation Board

GENERAL DESCRIPTION

The EVAL-ADXL375Z is a simple evaluation board that allows quick evaluation of the performance of the ADXL375 3-axis digital accelerometer. The EVAL-ADXL375Z has two sets of 0.1 inch spaced vias, for population of a 4-pin and 5-pin header, for access to all power and signal lines. The vias or headers allow the evaluation board to be attached to a prototyping board (breadboard) or attached to the PCB in an existing system. Four holes are provided for mechanical attachment of the EVAL-ADXL375Z to the application. An external host processor is required for communication to the part.

The dimensions of the EVAL-ADXL375Z are 20 mm × 20 mm with mounting holes set 15 mm × 15 mm at the corners of the printed circuit board (PCB).

CIRCUIT DESCRIPTION

The schematic of the EVAL-ADXL375Z is shown in Figure 2. See the ADXL375 data sheet for configuration of the accelerometer after it is connected to the application host processor.

The PCB layout of the EVAL-ADXL375Z is shown in Figure 1. The EVAL-ADXL375Z has three factory installed capacitors for bypass: two 100 nF capacitors and a 10 µF capacitor. C1 and C2 are V_S bypass capacitors to reduce analog supply noise and C3, located between $V_{DD\ I/O}$ and GND, is provided to reduce digital clocking noise.

HANDLING CONSIDERATIONS

The EVAL-ADXL375Z is not reverse polarity protected. Reversing the V_S or $V_{DD\ I/O}$ supply and GND pins can cause damage to the ADXL375.

Dropping the EVAL-ADXL375Z on a hard surface can generate several thousand *g*'s of acceleration, which may exceed the data sheet absolute maximum limits. See the ADXL375 data sheet for more information.

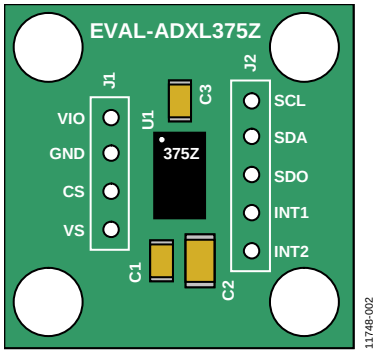


Figure 1. Physical Layout

EVALUATION BOARD SCHEMATIC

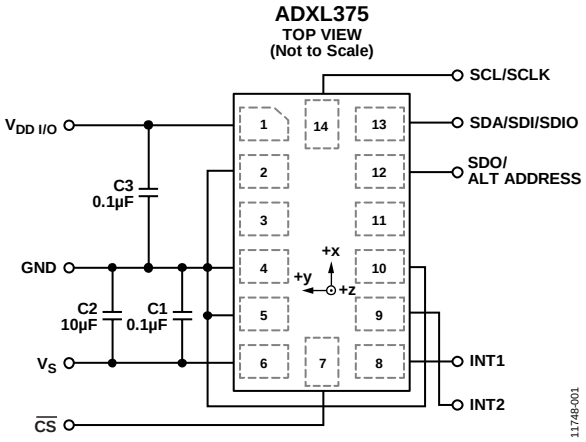


Figure 2. Schematic

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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