

## Evaluation Board for **ADXRS290**, Ultralow Noise, Dual-Axis MEMS Gyroscope

### GENERAL DESCRIPTION

The **EVAL-ADXRS290Z** is a simple evaluation board that allows quick evaluation of the performance of the **ADXRS290** dual-axis angular rate sensor (gyroscope). The **EVAL-ADXRS290Z** has two sets of 0.1 inch spaced vias for population of 5-pin headers and for access to all power and signal lines. The vias or headers are used to attach the evaluation board to the prototyping board (breadboard). Four holes are provided for mechanical attachment of the **EVAL-ADXRS290Z** to the application. An external host processor is required for communication with the device.

The dimensions of the **EVAL-ADXRS290Z** are 20 mm × 20 mm with mounting holes set at 15 mm × 15 mm at the corners of the printed circuit board (PCB).

### CIRCUIT DESCRIPTION

The schematic of the **EVAL-ADXRS290Z** is shown in Figure 1. See the **ADXRS290** data sheet for configuration of the accelerometer after it is connected to the application host processor.

Figure 2 shows the PCB layout of the **EVAL-ADXRS290Z**. The **EVAL-ADXRS290Z** has five factory installed capacitors. The primary communications port is the 4-wire serial peripheral interface (SPI). For this device, external pull-up/pull-down resistors are not required for the SPI interface, and these pins can connect directly to the system microcontroller.

### HANDLING CONSIDERATIONS

The **EVAL-ADXRS290Z** is not reverse polarity protected. Damage to the **ADXRS290** can result if the  $V_S$  or  $V_{DDIO}$  supply and GND pins are reversed.

Do not drop the **EVAL-ADXRS290Z** on a hard surface because it can generate several thousand  $g$  of acceleration, which may exceed the data sheet absolute maximum limits.

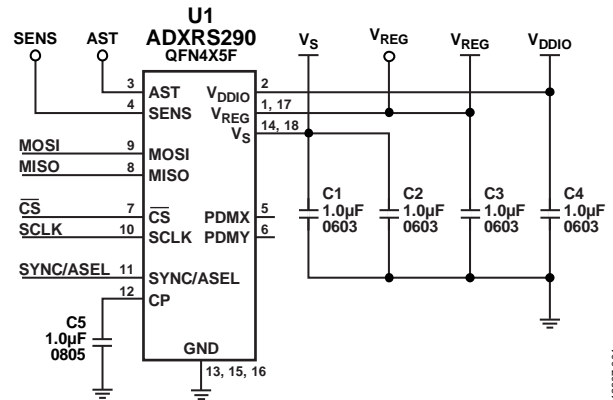


Figure 1. Schematic

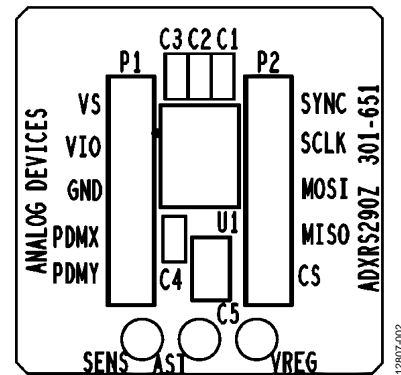


Figure 2. PCB Layout

Full details about the part is available in the **ADXRS290** data sheet, which should be consulted when using the **EVAL-ADXRS290Z**.

### REVISION HISTORY

1/15—Revision 0: Initial Version

## 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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