ANALOG DEVICES

# Evaluation Board User Guide
UG-152

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## Evaluating the ±50°/Sec, Single Chip Rate Gyro

### GENERAL DESCRIPTION

The EVAL-ADXRS624 is a simple evaluation board that allows quick evaluation of the performance of the ADXRS624 ±50°/sec yaw rate gyro. No additional external components are required for operation. The EVAL-ADXRS624 has a 20-lead, dual in-line (0.3 inch width × 0.1 inch pin spacing) interface that allows easy prototyping of products without BGA soldering.

### CIRCUIT DESCRIPTION

The schematic of the EVAL-ADXRS624 is shown in Figure 1. The numbers that appear in squares correspond to the pins on the evaluation board. It is identical to the suggested application shown in the ADXRS624 data sheet.

The analog and power grounds (AGND and PGND) have separate power planes in this evaluation board to accommodate application-specific grounding schemes. If the user requires only a single ground plane, these nodes can be shorted together. Both AGND and PGND must be grounded for the evaluation board to operate properly.

Note that the analog supply voltage and charge pump supply voltage ($AV_{CC}$ and $V_{DD}$) are not connected on the EVAL-ADXRS624 and that the user can connect these as appropriate to their application.

The parts layout of the EVAL-ADXRS624 is shown in Figure 2, and the parts list for the EVAL-ADXRS624 is shown in Table 1. As delivered, the EVAL-ADXRS624 is set to 10 Hz bandwidth ($C_{OUT}$ = 100 nF). The user can add an external capacitor to further reduce the bandwidth and improve the noise floor.

### SPECIAL NOTES ON HANDLING

Note that the EVAL-ADXRS624 is not reverse polarity protected. Reversing the power supply or applying inappropriate voltages to any pin (outside the Absolute Maximum Ratings listed in the ADXRS624 data sheet) may damage the EVAL-ADXRS624.

### SCHEMATICS AND PARTS LIST/LAYOUT

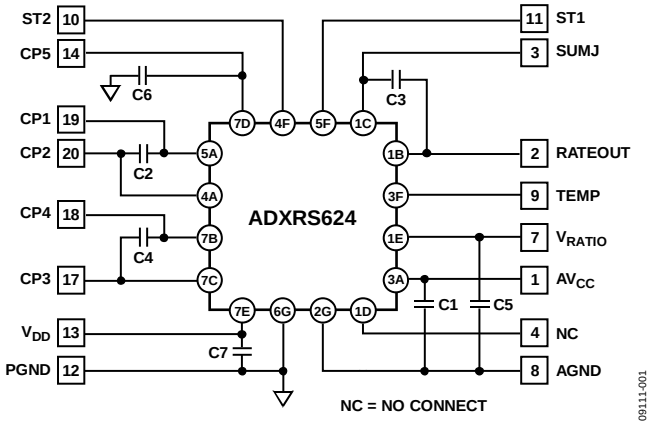



*Figure 1. EVAL-ADXRS624 Schematic*

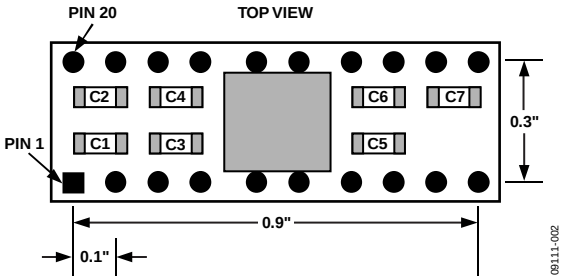



*Figure 2. EVAL-ADXRS624 Parts Layout*

**Table 1. EVAL-ADXRS624 Parts List**

| Component | Value (nF) |
|---|---|
| C1 | 100 |
| C2 | 22 |
| C3 | 100 |
| C4 | 22 |
| C5 | 100 |
| C6 | 100 |
| C7 | 100 |

# 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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