

## Evaluating the **ADXRS645** High Temperature, Vibration Rejecting $\pm 2000^\circ/\text{sec}$ Gyroscope

### FEATURES

- Compact breakout board for **ADXRS645**
- High temperature compliant bill of materials (175°C)
- Solder link options

### EVALUATION BOARD LAYOUT

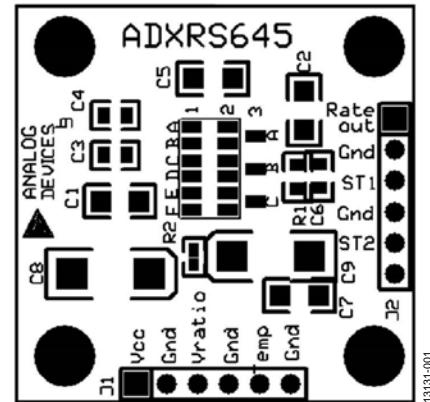


Figure 1.

### GENERAL DESCRIPTION

The **EVAL-ADXRS645Z** is a simple, compact breakout board that facilitates quick performance evaluation of the high temperature **ADXRS645**  $\pm 2000^\circ/\text{sec}$  analog output single-axis rate gyroscope. Use this evaluation board to evaluate performance on the bench, over temperature, and to facilitate system integration.

The **EVAL-ADXRS645Z** has two sets of 5-lead, 0.1 inch pin spaced plated through holes that make electrical connections between the **ADXRS645** and the existing system. The **EVAL-ADXRS645Z** also provides four mounting holes for mechanical attachment of the board to the application.

The dimensions of the **EVAL-ADXRS645Z** are 1.275 inch  $\times$  1.275 inch (32.38 mm  $\times$  32.38 mm) with two sets of mounting holes. The outer set of holes is 0.15 inch (3.81 mm) in diameter and arranged in a 1.0 inch  $\times$  1.0 inch (25.4 mm  $\times$  25.4 mm) square around the center of the printed circuit board (PCB).

Figure 1 and Figure 2, respectively, show the **EVAL-ADXRS645Z** board layout and schematic. Table 1 lists the parts that are popu-

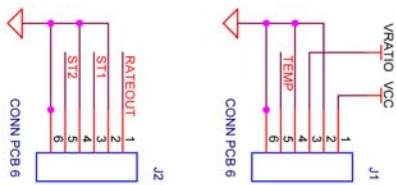
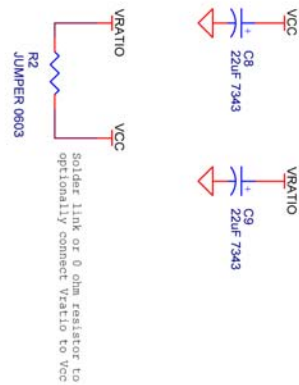
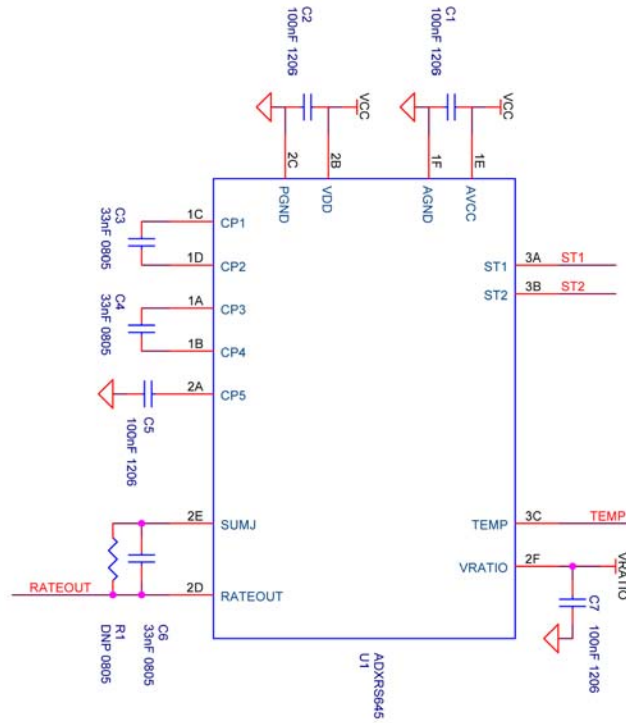
lated on the board. All parts in the Bill of Materials section (including polyimide laminate PCB) are rated for high temperature, 175°C, for short duration testing at elevated temperatures. The assembly has not been qualified for extended use at high temperatures.

The schematic and board layout, as well as the board itself, indicate the pin names for easy identification. For additional information on the pin functions, refer to the **ADXRS645** data sheet.

R2 is a solder link jumper that connects  $V_{\text{RATIO}}$  to the  $V_{\text{CC}}$  input (see Figure 2) on the board. R2 is installed by default and must be removed if a separate  $V_{\text{RATIO}}$  is desired.

A resistor can be installed in the R1 footprint to extend the measurement range of the device. Refer to the **ADXRS645** data sheet for more information on this feature.

EVALUATION BOARD SCHEMATIC



J1 and J2 are 0.1" headers, normally DNP

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Figure 2. EVAL-ADXRS645Z Schematic

# ORDERING INFORMATION

## BILL OF MATERIALS

See Table 1 for the [EVAL-ADXRS645Z](#) parts list. These parts are factory installed unless otherwise noted.

## NOTES ON HANDLING

The [EVAL-ADXRS645Z](#) is not reverse polarity protected. Reversing the power supply or applying inappropriate voltages to any pin (outside those listed in the [ADXRS645](#) data sheet) may damage the [EVAL-ADXRS645Z](#).

Table 1.

| Reference Designator | Description                               | Value  | Manufacturer         | Part Number                  |
|----------------------|---|--------|----------------------|------------------------------|
| U1                   | BL_TIP                                    |        | Analog Devices, Inc. | <a href="#">ADXRS645HDYZ</a> |
| C1, C2, C5, C7       | 1206                                      | 100 nF | Kemet                | C1206H104J3GACTU             |
| C3, C4, C6           | 0805                                      | 33 nF  | Kemet                | C0805H333J3GACTU             |
| C8, C9               | 7343                                      | 22 µF  | AVX                  | THJD226K035R0300             |
| R1                   | 0805, do not install, for range extension |        |                      |                              |
| R2                   | 0603, solder link installed               | Jumper |                      |                              |
| J1, J2               | Do not install                            |        | Samtec, Inc.         | HTSW-106-07-F-S              |



**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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