

## FEATURES

- Excellent null offset stability over temperature**
- High vibration rejection over a wide frequency range**
- 2000 g powered shock survivability**
- SPI digital output with 16-bit data-word**
- Low noise**
- Continuous self-test**
- Fail-safe functions**
- Temperature sensor**
- 3.3 V and 5 V operation**
- −40°C to +105°C operation**
- Small, low-profile industry standard SOIC package provides yaw rate (Z-axis) response**
- Innovative ceramic vertical mount package (VMP) provides pitch and roll rate response**
- Qualified for automotive applications**

## APPLICATIONS

- Electronic stability control**
- High performance platform stabilization**

## GENERAL DESCRIPTION

The **ADXRS800** is an angular rate sensor (gyroscope) intended for automotive electronic stability control, vehicle rollover detection, and other high performance applications. An advanced, differential, quad-sensor design rejects the influence of linear acceleration, enabling the **ADXRS800** to operate in exceedingly harsh environments where shock and vibration are present.

The **ADXRS800** uses an internal, continuous self-test architecture. The integrity of the electromechanical system is checked by applying a high frequency electrostatic force to the sense structure to generate a rate signal that can be differentiated from the baseband rate data and internally analyzed.

The **ADXRS800** is capable of sensing an angular rate of up to  $\pm 300^\circ/\text{sec}$ . Angular rate data is presented as a 16-bit word, as part of a 32-bit SPI message.

The **ADXRS800** is available in a cavity plastic SOIC-16 and an SMT-compatible vertical mount package and is capable of operating across both a wide voltage range (3.3 V to 5 V) and temperature range ( $-40^\circ\text{C}$  to  $+105^\circ\text{C}$ ).

## FUNCTIONAL BLOCK DIAGRAM

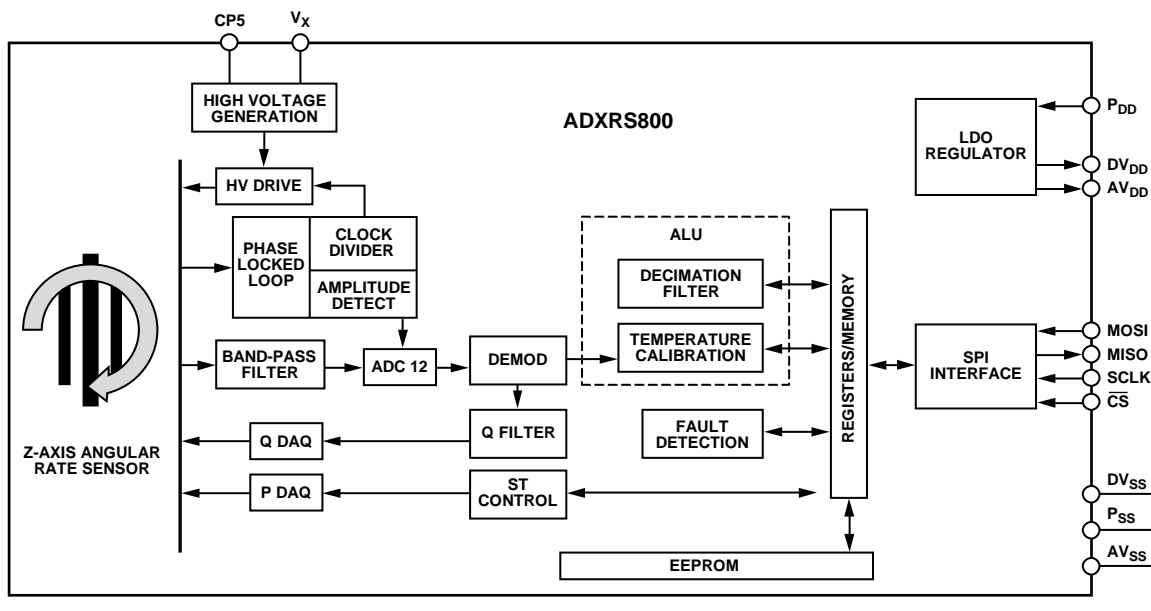


Figure 1.

For more information about the **ADXRS800**, contact the Analog Devices, Inc., Customer Interaction Center at [http://www.analog.com/en/content/technical\\_support\\_page/fca.html](http://www.analog.com/en/content/technical_support_page/fca.html) to connect with a technical support specialist.

### Rev. SpC

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