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9 Anexos

9.1 Folha técnica do sensor de ângulo.



DE-ACCM3D Buffered $\pm 3g$ Tri-axis Accelerometer

General Description

The DE-ACCM3D is a complete 3D $\pm 3g$ analog accelerometer solution. It features integrated op amp buffers for direct connection to a microcontroller's analog inputs, or for driving heavier loads.

The onboard 3.3V regulator and decoupling capacitor give you great flexibility when powering the device, and can also be bypassed for operation down to 2.0V.

The DE-ACCM3D is designed to fit the DIP-16 form factor, making it suitable for breadboarding, perfboarding, and insertion into standard chip sockets.

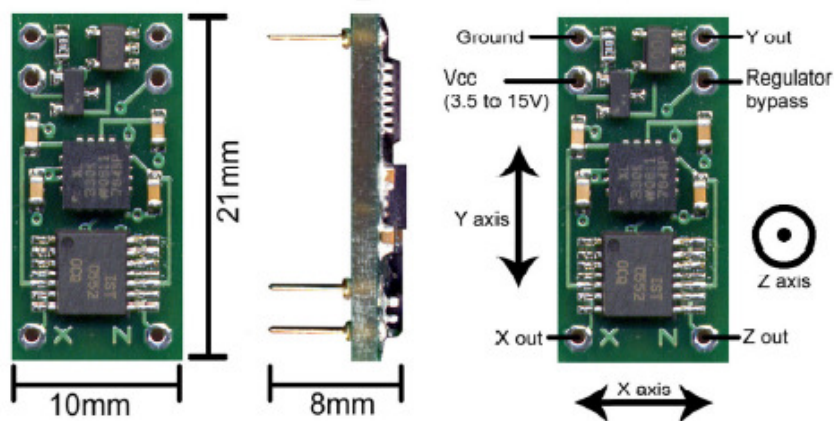
It is based on the Analog Devices ADXL330 for superior sensitivity and tighter accuracy tolerances.

Features

- Triple axis $\pm 3g$ sense range
- Up to 360mV/g sensitivity
- 500Hz bandwidth
- Operating voltage 3.5V to 15V (onboard regulator)
- Operating voltage 2.0V to 3.6V (without regulator)
- 3.3V regulator can power external microcontroller
- Reverse voltage protection
- Output short protected
- Standard DIP-16 form factor
- Integrated power supply decoupling
- Draws 0.9mA
- Can accurately drive 500 Ω loads

Applications

- Motion, tilt and slope measurement
- Device positioning
- Shock sensing
- Vehicle acceleration logging



9.2 Folha técnica do sensor de ângulo.

PRELIMINARY TECHNICAL DATA



**±150deg/s Single Chip Yaw Rate Gyro
with Signal Conditioning**

Preliminary Technical Data

ADXRS150*

FEATURES

Complete Rate Gyroscope on a Single Chip
Z Axis (Yaw rate) response
High Vibration rejection over wide frequency
0.05 %/√Hz Noise
1000g Powered Shock Operation
Self-Test on Digital Command
Temperature Sensor Output
Precision Voltage Reference Output
Absolute Rate Output for Precision Applications
+5V Single Supply Operation
Ultra small and light (<150mm², <1 gram)

APPLICATIONS

- GPS Navigation Systems
- Vehicle Stability Control
- Inertial Measurement Units
- Guidance and Control
- Platform Stabilization

GENERAL DESCRIPTION

The ADXRS150 is a complete angular rate sensor, (gyroscope) which uses Analog Devices' surface-

micromachining process to make a functionally complete and low cost angular rate sensor integrated with all of the required electronics all on the same chip.

The manufacturing technique for this device is the same high-volume BIMOS process used to for high reliability automotive airbag accelerometers.

The output signal, RATEOUT(1B,2A), is a voltage proportional to angular rate about the axis normal to the top surface of the package (see Figure 1). A single external resistor can be used to lower the scale factor. An external capacitor is used to set the bandwidth. Other external capacitors are required for operation (see Figure 2).

A precision reference and a temperature output are also provided for compensation techniques. Two digital self-test inputs electro-mechanically excite the sensor to test proper operation of both sensors and the signal conditioning circuits.

The ADXRS150 is available in a 7mm x 7mm x 3mm BGA surface-mount package.

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9/30/02

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9.3

Folha técnica da placa de desenvolvimento do controle

Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit

TEXAS INSTRUMENTS



The Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit is a compact and versatile evaluation platform for the Stellaris LM3S8962 ARM® Cortex™-M3-based microcontroller. The evaluation kit design highlights the LM3S8962 microcontroller's integrated CAN and 10/100 Ethernet controllers.



Features

As well as implementing an embedded web server, the kit functions as a complete controller area network (CAN) by providing two boards each with a Stellaris microcontroller. The main evaluation board (EVB) is the CAN host. A small CAN device board, linked with a ribbon cable, uses a Stellaris LM3S2110 microcontroller. The function of each board is fully configurable in software.

You can use the EVB either as an evaluation platform or as a low-cost in-circuit debug interface (ICDI). In debug interface mode, the on-board microcontroller is disabled, allowing connection of the debug signals to an external target. The kit is also compatible with high-performance external JTAG debuggers.

This evaluation kit enables quick evaluation, prototype development, and creation of application-specific designs for Ethernet networks. The kit also includes extensive source-code examples, allowing you to start building C code applications quickly. The evaluation kit includes the following features:

- Stellaris LM3S8962 microcontroller with fully-integrated 10/100 embedded Ethernet controller and CAN MAC
- Simple setup: USB cable provides serial communication, debugging, and power
- OLED graphics display
- User LED, navigation switches, and select pushbuttons
- Magnetic speaker
- MicroSD card slot

- USB interface for debugging and power supply
- Standard ARM® 20-pin JTAG debug connector with input and output modes
- LM3S8962 I/O available on labeled break-out pads

Kit Contents

The evaluation kit contains everything needed to develop and run applications for Stellaris microcontrollers including:

- LM3S8962 evaluation board (EVB)
- USB cable
- 20-pin JTAG/SWD target cable
- 10-pin CAN cable
- Retracting Ethernet cable
- CD containing:
 - Complete documentation
 - Evaluation version of the software tools
 - Quickstart guide and source code
 - StellarisWare® Peripheral Driver Library and example source code
 - An evaluation version of one of the following:
 - Keil™ RealView® Microcontroller Development Kit (MDK-ARM)
 - IAR Embedded Workbench
 - Code Sourcery GCC development tools
 - Code Red Technologies Code Suite development tools
 - Texas Instruments' Code Composer Studio™ IDE

Ordering Information

Product Number	Description
EKK-LM3S8962	Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit for Keil™ RealView® MDK-ARM (32 KB code-size limited)
EKI-LM3S8962	Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit for IAR Systems Embedded Workbench® (32 KB code-size limited)
EKC-LM3S8962	Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit for CodeSourcery G++ GNU (30-day limited)
EKT-LM3S8962	Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit for Code Red Technologies Red Suite (30-day limited)
EKS-LM3S8962	Stellaris® LM3S8962 Ethernet+CAN Evaluation Kit for Code Composer Studio™ IDE (board-locked)

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PB-LM3S8962EK-04

February 9, 2010