Tronics GYPRO3300 Angular Rate Sensor

A unique, high-performance MEMS gyroscope z-axis for industrial applications

Tronics Microsystems, a leader in high-performance MEMS inertial sensors, recently released a new high-performance MEMS gyroscope specially designed for industrial and other demanding applications: the Tronics GYPRO3300. The GYPRO3300 is a next-generation MEMS angular rate sensor that can determine angle changes in three dimensions for applications such as 3D mapping, robotics, AHRS, and navigation systems. Hermetically sealed in a single CLCC 30-pin package, and with a volume under 850 mm³, the GYPRO3300 can be integrated in many advanced systems.

The GYPRO3300 gyroscope is a unique, high-performance z-axis with a sleek structure that includes MEMS and ASIC in a ceramic package, using Tronics vacuum wafer-level packaging (WLP) technology based on micro-machined, thick single-crystal silicon. Resistant to moisture, dust, and dirt, the GYPRO3300 was designed for high-stress conditions. The MEMS structure is based on a tuning-fork design working in anti-phase mode to reject external vibration. This structure is coupled with an ASIC specifically designed by Si-Ware for MEMS gyroscopes.

The GYPRO3300 offers a new level of performance, with a bias instability below 1°/h and a vibration rectification of 0.002°/s/g², which is qualified for industrial applications. Si-Ware’s ASIC embeds OTP memory, a temperature sensor, and a phase-locked loop to manage, compensate, and process data issued from the MEMS. Moreover, the system works in a close-loop architecture that brings key advantages.

This report analyzes the complete component, including the package, MEMS, and ASIC dies developed by Tronics Microsystems-TDK. Moreover, this report provides a full description of the ASIC and MEMS functionalities, and details the manufacturing processes used.

Also included is a complete cost analysis and selling price estimate for the GYPRO3300 z-axis gyroscope, as well as a comparison with two other high-end MEMS gyroscopes: Sensonor’s STIM210 Multi-Axis and Analog Devices’ ADIS16136.

Title: Tronics GYPRO3300B Gyroscope
Pages: 141
Date: January 2018
Format: PDF & Excel file
Price: EUR 3,490
Bundle offer: with the reports Sensonor STIM210 High-precision MEMS Gyro Module and Analog Devices ADIS16136 Precision Angular Rate Sensor - Contact us

COMPLETE TEARDOWN WITH:
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<td>World highest performance silicon MEMS gyro available without export control. Tactical grade with bias instability of 0.5°/h in a miniature 33cm³ package.</td>
<td>Tactical grade gyro module with in-run bias stability of 4°/hour.</td>
<td>Fueled by geopolitical risks rising defense investments, commercial aerospace and fast-growing applications, this new prosperous cycle of the high end inertial business will bring the market to new heights.</td>
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