

LED

IC

MEMS

IMAGING

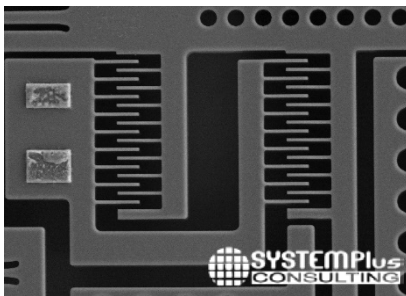
PACKAGING

SYSTEM

POWER

2-Axis Gyroscopes for Optical Image Stabilization: STMicroelectronics L2G2IS and InvenSense IDG-2030

Complete reports and comparison of the latest generation products for smartphones from the leading optical image stabilization gyro players.



2-Axis Gyroscopes for Optical Image Stabilization (OIS) constitute a market where 123 million units were shipped in 2015, according to Yole Développement. This market originates only from high-end smartphones and two players share most of it: InvenSense, with 49%, and STMicroelectronics, with 39%.

The 2-axis gyroscopes are located inside the camera module of high-end smartphones. The main constraints are a small footprint and, more importantly, thinness.

Previously, thickness was the same as standard land grid array (LGA) or quad flat no-leads (QFN) package, close to 1mm. Now the standard is 0.65mm, which products from both InvenSense and STMicroelectronics attain.

InvenSense was first, with the IDG-2030, a 2.3x2.3x0.65mm gyroscope, which is still the smallest on the market. Since its introduction we found it in several smartphones from various manufacturers. The IDG-2030 uses the same Nasiri platform as other InvenSense inertial devices, with wafer-level integration of the MEMS sensor on top of the application specific integrated circuit (ASIC), thus providing only one die in the final LGA package.

Months later, STMicroelectronics released the L2G2IS, which shares the same dimensions. The device is manufactured using the same THELMA process as all STMicroelectronics inertial devices. The THELMA platform involves a two-die approach that is challenging for very thin package integration. However, both players now offer very low-cost gyros thanks to die size reduction and process optimization.

Both gyroscopes analyzed are 2-axis X, Y (Pitch, Roll). The two reports can be purchased separately or together in order to compare the technology and pricing of the main smartphone OIS gyro players, including previous generation products.

Title: 2-Axis OIS Gyroscopes
Pages: 192 (105 + 87)
Date: November 2016
Format: pdf + xls

PRICES:

- Full report: EUR 3,290
- Bundle of 2 reports: EUR 5,500

COMPLETE TEARDOWN WITH:

- Detailed photos
- Precise measurements
- Material analysis
- Manufacturing process flow
- Supply chain evaluation
- Manufacturing cost analysis
- Estimated sales price
- Comparison between STMicroelectronics and InvenSense

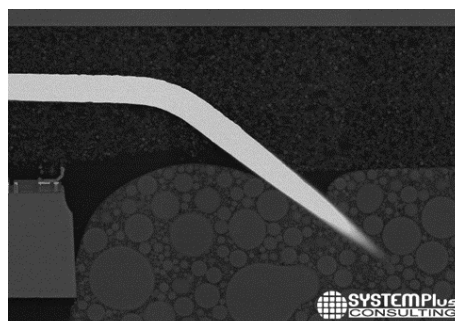


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Romain is in charge of costing analyses

for Advanced Packaging, MEMS and IC. He has published numerous reports on advanced packaging devices including fan-in and fan-out WLP, embedded die packaging and 3D TSV packaging.



Véronique Le Troadec (Lab)

Véronique is in charge of structure analysis of

semiconductors. She has a deep knowledge in chemical & physical technical analyses. She previously worked for 20 years in Atmel Nantes Laboratory.

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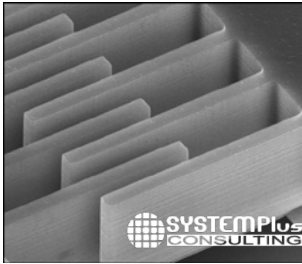
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BOSCH Sensortec has unveiled a programmable all-in-one emotion sensor for robotics, gaming, and house hold IoT devices, touted as the industry's first custom-programmable 9-axis motion sensor.



Pages: 246
Date: April 2016
Full report: EUR 3,490*

InvenSense ICM-30630

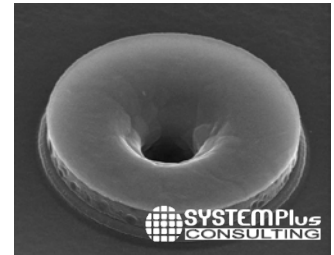
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mCube MC3635

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*All reports are delivered electronically in pdf format

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