

Epson Toyocom X3500W – QMEMS Gyro

Reverse Costing Analysis

by System Plus Consulting

March 2010

Physical Analysis of the Device

Step by Step Reconstruction of the Process Flow

Cost of Manufacturing and Estimation of Selling Price

System Plus Consulting is proud to publish the reverse costing report of the yaw rate sensor X3500W supplied by Epson Toyocom.

This Z-axis gyroscope use an hermetically sealed multi-chip Ceramic LCC package with two dies: : a Quartz crystal sensor die processed with MEMS technology (QMEMS) and an ASIC die for signal conditioning.

The X3500W is integrated in the Nintendo Wii Motion Plus accessory. It is a variation of the standard XV-3500CB from Epson Toyocom which is mainly used for image stabilization of DVC and DSC or for the detection of moving with human machine interface.

This report provides a complete teardown of the QMEMS Gyroscope with:

- Detailed photos
- Material analysis
- Schematic assembly description
- Manufacturing Process Flow
- In-depth economical analysis
- Manufacturing cost breakdown
- Selling price estimation



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