Infineon DPS310 Capacitive Pressure Sensor: Structure and Cost Analysis

Description: The first barometric sensor from Infineon for the consumer market is targeting altitude, GPS, indoor and weather forecasting applications in portable devices. This MEMS sensor positions Infineon to compete with STMicroelectronics and Bosch Sensortec.

Infineon’s DPS310 pressure-sensing device is manufactured using a proprietary MEMS technology developed for and already sold for several years in the automotive market. The sensing element in the DPS310 is based on a flexible silicon membrane formed above an air cavity with a controlled gap and defined internal pressure. The membrane is very small compared to traditional silicon micro-machined membranes. Moreover, Infineon has developed a capacitive sensor to be more accurate and less sensitive to temperature change compared to piezoresistive solutions.

For the DPS310, Infineon has introduced two important innovations. The first is a two-die solution more scalable than the monolithic solution used for some automotive pressure sensors.

The second innovation is a plastic metallized lid to replace the classic metal lid. The device comes in a tiny 2×2.5×0.9mm HLGA molded package.

The report presents a detailed analysis of the sensor’s structure and cost. Comparison with the characteristics of the STMicroelectronics pressure sensor LPS22HB and the Bosch Sensortec BMP280 highlights differences in technical choices made by the companies.

Contents:

Overview / Introduction

Company Profile and Supply Chain

Physical Analysis

Package

- Package views and dimensions
- Package opening
- Package cross-section

ASIC die

- View, dimensions, and marking
- Delayering and process
- Cross-section

MEMS Die

- View, dimensions and marking
- Sensing area details
- Cross-section sensor capacitor
- Cross-section reference capacitor
- Process characteristics

Comparison

Manufacturing Process Flow

ASIC front-end process

- ASIC wafer fabrication unit
- MEMS process flow
- MEMS wafer fabrication unit
- Packaging process flow
- Package assembly unit

Cost Analysis

Yield hypotheses

- ASIC front-end cost
- ASIC back-end 0: probe test and dicing
- ASIC wafer and die cost
- MEMS front-end cost
- MEMS back-end 0: probe test and dicing
- MEMS front-end cost per process step
- MEMS wafer and die cost
- Back-end: packaging cost
- Back-end: packaging cost per process step
- Back-end: final test cost
- Pressure sensor component cost

Estimated Price Analysis

Ordering:

Order Online - http://www.researchandmarkets.com/reports/4109884/

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit
http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

- Product Name: Infineon DPS310 Capacitive Pressure Sensor: Structure and Cost Analysis
- Web Address: http://www.researchandmarkets.com/reports/4109884/
- Office Code: SCWPNB7

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic (PDF)</td>
<td>USD 3715</td>
</tr>
<tr>
<td>Enterprisewide</td>
<td></td>
</tr>
</tbody>
</table>

* The price quoted above is only valid for 30 days. Please submit your order within that time frame to avail of this price as all prices are subject to change.

Contact Information
Please enter all the information below in BLOCK CAPITALS

- Title: [ ] Mr [ ] Mrs [ ] Dr [ ] Miss [ ] Ms [ ] Prof
- First Name: ______________________ Last Name: ______________________
- Email Address: * ______________________
- Job Title: ______________________
- Organisation: ______________________
- Address: ______________________
- City: ______________________
- Postal / Zip Code: ______________________
- Country: ______________________
- Phone Number: ______________________
- Fax Number: ______________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World