ams Ambient Light Sensor (ALS) - Complete Tear-Down Analysis

Description:
ams has adopted through-silicon via (TSV) packaging technology for advanced light sensor technology. TSV technology, with the advantage of having in-house wafer fabrication expertise, eliminates the use of wire bonds and provides a direct connection from the device I/Os to a solder ball.

The TSL2584TSV ALS is only 1.14 x 1.66mm footprint and 0.32mm height. The small size of the TSV package technology addresses the small form factor requirement in wearable products (watch, glasses...). ams uses for this device an untraditional and elegant tungsten TSV-last process compared to copper filled TSV used by many other players.

For the light sensing, a very sensitive analog front-end (AFE) is used with a patented dual-diode architecture to transform light intensity into a digital count value. A broadband photodiode responsive to visible and infrared is used in conjunction with an infrared-only responsive photodiode and the two photodiodes channel responses are mathematically subtracted via a lux equation on a micro-controller through the digital I²C interface.

The TSL2584TSV includes an on-chip photopic infrared-blocking interference filter that rejects unwanted UV and IR producing a near-photopic response.

The report also includes a comparison with ams Ambient Light Sensor featured in the iPhone 6s.

Contents:
1. Overview/Introduction
2. Company Profile & Supply Chain
3. Physical Analysis
   - Physical Analysis Methodology
   - Sensor Die
     -- Sensor View & Dimensions
     -- Sensor Marking
     -- Sensor Packaging
     -- Sensor Delayering
   - CMOS Process
   - Photodiodes
   - TSV
     -- Sensor Cross-Section
     -- Substrate
     -- Metal Layers
     -- Filter
     -- IC Process
     -- Photodiodes
     -- TSV
     -- RDL & Solder Bump
4. Manufacturing Process Flow
   - Global Overview
   - Sensor Front-End Process
   - Sensor TSV Packaging Process Flow
   - Wafer Fabrication Unit
5. Cost Analysis
   - Sensor Front-End Cost
   - Sensor TSV Packaging Cost
   - TSV Packaging Cost per Steps
   - Sensor Filter Cost
- Sensor Wafer Cost
- Sensor Die Cost
- Sensor Test Cost
- Sensor Cost & Price

6. Selling Price Analysis
- Sensor Price Estimation

7. Comparison with ams ALS in iPhone 6s

Ordering:

Order Online - http://www.researchandmarkets.com/reports/3617253/

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: ams Ambient Light Sensor (ALS) - Complete Tear-Down Analysis
Web Address: http://www.researchandmarkets.com/reports/3617253/
Office Code: SCBR9PJ2

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

Quantity
Electronic (PDF) - Enterprisewide: USD 3801

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