

# FLIR Boson – a small, innovative, low power, smart thermal camera core

*An infrared camera with a powerful vision processor in a small package, using a new 12µm microbolometer*



Based on a high definition ISC1406L microbolometer, the FLIR Boson thermal camera aims at a wide range of markets: military, drones, automotive, security and firefighting. Thanks to sound technological and economic choices, the microbolometer offers very good performance in definition and frame rate at low cost. The camera core's economical approach involves new lens technology and sophisticated vision processing from Intel/Movidius to power its infrared vision.

The FLIR Boson camera core occupies only 4.9cm<sup>3</sup> without its lens, including a 320x256 pixel microbolometer and an advanced processor. The system is made very compact and easy for integrators to handle. It includes a new chalcogenide glass for the lens and a powerful Vision Processing Unit for the first time.

The thermal camera uses 12µm pixels based on a vanadium oxide technology microbolometer, the ISC1406L, which features a 320x256 resolution and wafer-level packaging (WLP) to achieve a very compact design. The die is half the size of the one in the oldest ISC0901 model, but gives the same definition.

This report is divided into two parts. One is focused on the microbolometer, and the other on the camera system. The first report provides a detailed teardown and cost analysis of the microbolometer, lens and WLP. The second report provides the bill-of-material (BOM) of the camera core, and manufacturing cost of the infrared camera.

The reports also include two comparisons between the characteristics of the FLIR ISC1403L, FLIR Lepton 3 and the PICO384P from ULIS. One comparison highlights differences in technical choices made by the companies. The second comparison looks at changes in FLIR's technological choices for its camera core.

**Title:** FLIR Boson Camera and 12µm microbolometer

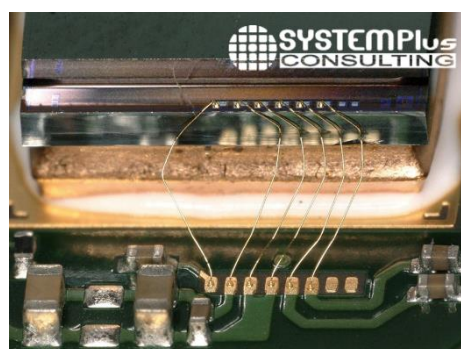
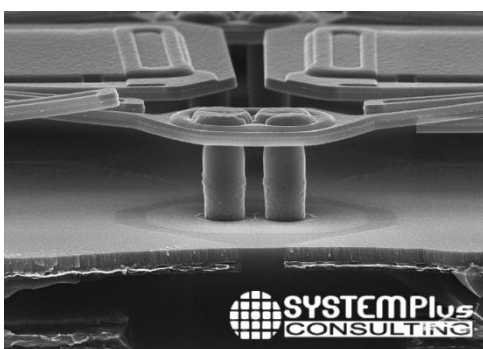
**Pages:** 170

**Date:** September 2017

**Format:** PDF & Excel file

## COMPLETE TEARDOWN WITH:

- Detailed photos
- Precise measurements
- Materials analysis
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#### Estimated Price Analysis

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Sylvain is in charge of costing analyses for IC, power and MEMS. He has more than 15 years of experience in power device manufacturing cost analysis and has studied a wide range of technologies.



#### Yvon Le Goff (Lab)

Yvon has joined System Plus Consulting in 2011 to setup its laboratory. He previously worked for 25 years at Atmel Nantes Technological Analysis Laboratory as fab support in physical analysis, and for three years at Hirex Engineering in Toulouse, in a destructive physical analysis lab.

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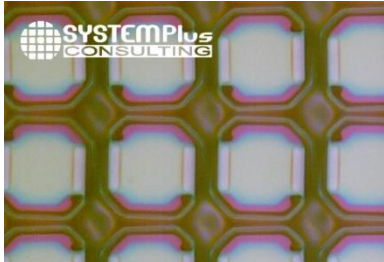
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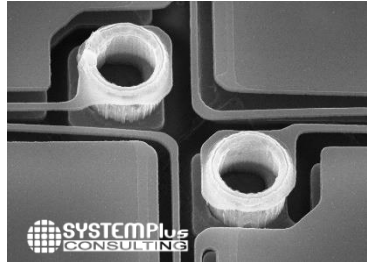
Infrared camera and electronic control unit for advanced driver assistance systems based on FLIR night vision imaging technology.



Pages: 98 (Sensor) + 105 (System)  
Date: June 2017

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