Camera Module Industry 2015 - Mobile CCM Technology Review - Reverse Technology Report

Description:
Smartphone camera usage changed the equilibrium within consumer electronics, disrupting the digital still camera (DSC) market. Smartphones have taken a major share of the industry, but automotive is the new background industry for camera modules.

In addition to Yole Développement Camera Module Industry 2015 report, this comparative technologies review has been conducted to provide insight on structure and technology for 17 CMOS Camera Modules (CCM) released in flagship smartphones from the major brands. Both rear and front-facing CCM are compared in term of structure overview, module integration, lenses number and dimensions, CIS resolution, pixel size... For comparative purpose, an analysis of two automotive camera modules has been realized to highlight the main differences.

Mobile is the main driver for technology, asking for more performance in a constrained footprint. This report shows the technology choices of the main players.

Sensor technology has been transformed by BSI and Stacked BSI technologies. The race for decreasing pixel size goes hand in hand with increasing resolution. Surprisingly, market demand is pushing technology so that optical formats are actually increasing, resulting in a module price increase.

Optics have increased in complexity with decreasing F numbers, increasing field view (FOV) and therefore number of lens. Due to high resolution and low F number, auto focus (AF) and image stabilization (OIS) now become mandatory.

Contents:
1. Introduction
2. Smartphones
   Samsung Galaxy S6
      - Front-Facing Camera Module
      Dimensions Overview / Image Sensor Overview / Cross-Section
      - Rear-Facing Camera Module
      Dimensions Overview / Image Sensor Overview / Cross-Section
      - Huawei Ascend Mate 7
      - Front-Facing Camera Module
      Dimensions Overview / Image Sensor Overview / Cross-Section
      - Rear-Facing Camera Module
      - Dimensions Overview / Image Sensor Overview / Cross-Section
   HTC One M9
      - Front-Facing Camera Module
      - Dimensions Overview / Image Sensor Overview / Cross-Section
      - Rear-Facing Camera Module
      - Dimensions Overview / Image Sensor Overview / Cross-Section
   Xiaomi Mi4
      - Front-Facing Camera Module
      - Dimensions Overview / Image Sensor Overview / Cross-Section
      - Rear-Facing Camera Module
      - Dimensions Overview / Image Sensor Overview / Cross-Section
   Xiaomi Redmi 2
- Front-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section
- Rear-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section

ZTE Nubia Z7
- Front-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section
- Rear-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section

Apple iPhone 6 & 6 Plus
- iPhone 6 & 6 Plus Front-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section
- iPhone 6 Rear-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section
- iPhone 6 Plus Rear-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section

Apple iPhone 6s Plus
- iPhone 6s Plus Front-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section
- iPhone 6s Plus Rear-Facing Camera Module
- Dimensions Overview / Image Sensor Overview / Cross-Section

3. Automotive
- Camera Module Volkswagen
- Dimensions Overview / Image Sensor Overview / Cross-Section
- Camera Module BMW
- Dimensions Overview / Image Sensor Overview / Cross-Section

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