Image Sensor Targets Video-Centric Smartphones

OmniVision Technologies, a leading developer of advanced digital imaging solutions, today introduced the OV5680, the first 5-megapixel CameraChip sensor using OmniVision's new 1.75-micron OmniBSI-2 pixel. The OV5680 combines best-in-class image quality and sensitivity with high frame rate 1080p high definition (HD) video, making it the highest performance 5-megapixel sensor for mobile applications.

"With the rise of video-centric smartphones, we have experienced a steep ramp in 5-megapixel sensor demand in the past 18 months, and we are continuing to see strong growth forecasts into 2012, and reports are projecting 5-megapixel production to nearly double within the next three years as smartphones have now overtaken feature phones in the US market," commented Vinoo Margasahayam, product marketing manager at OmniVision. "The OV5680 is designed to meet and exceed the expectations of this highly video-centric market, bridging the quality and performance gaps between mobile phone cameras and dedicated digital video cameras."

Utilizing an integrated scaler, the 1/3.2-inch OV5680 offers 1080p HD video capture at 30 frames per second (FPS) for continuous shooting and shutterless designs without any lag. The scaler enables electronic image stabilization, while maintaining full field of view in 1080p HD video mode. The sensor's 2 x 2 binning functionality with post-binning re-sampling filter enables 720p video capture at 60 FPS, minimizes spatial artifacts and removes image artifacts around edges. Its advanced features allow the OV5680 to deliver clean and crisp color images for best-in-class HD video. Additionally, the OV5680 can synchronize exposure and frame for stereo cameras to meet 3D video capture requirements.

The OV5680's new 1.75-micron OmniBSI-2 pixel is built using a 300 mm copper process with 65 nm design rules, offering optimized die size, lower power consumption, and significant performance and image quality improvements over the first generation OmniBSI™ pixel. These include a 20 percent improvement in peak quantum efficiency, 20 percent improvement in low-light performance and a 50 percent increase in full-well capacity.

The OV5680 comes with a standard 2-lane MIPI interface and fits into the industry standard 8.5 x 8.5 x 6 mm module. It is now available for sampling, with mass production expected for the first half of 2012.

Find out more at http://www.ovt.com [1].

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