OmniVision tops up sensors for cameras, phones

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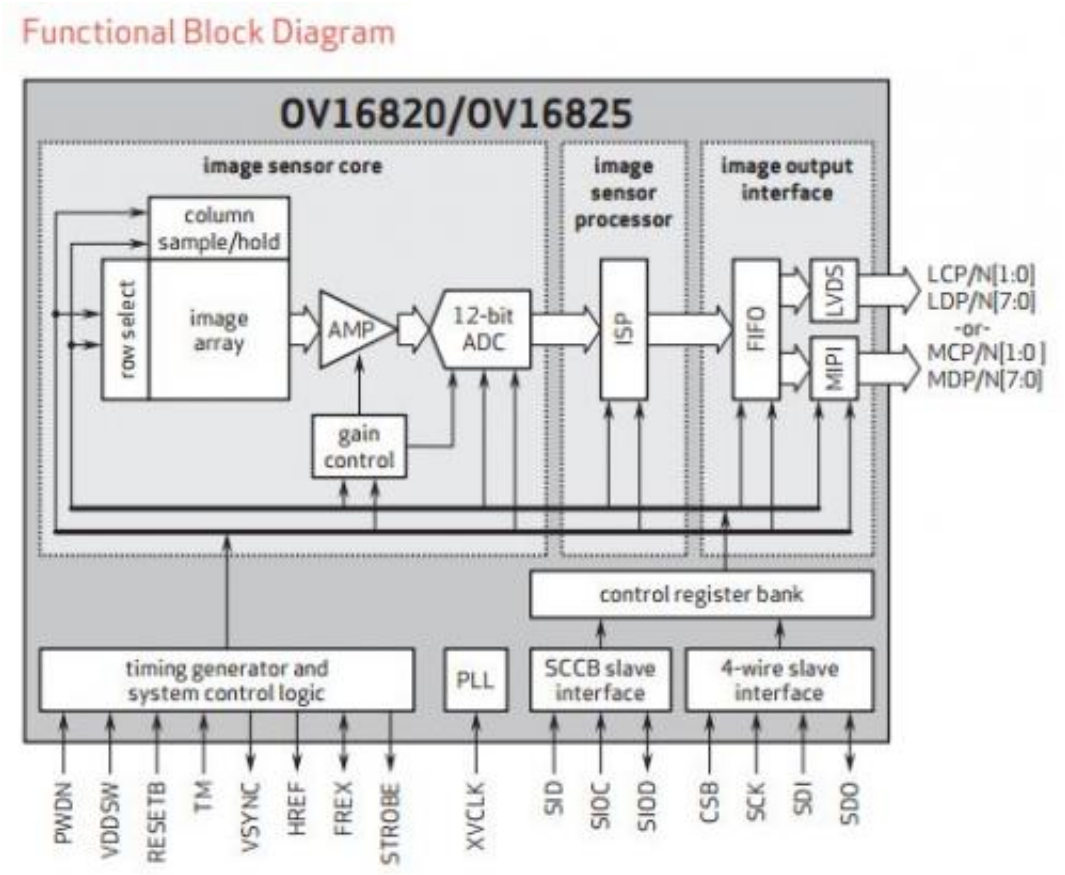

(Phys.org) -- OmniVision has announced two high-resolution image sensors for the digital still and digital video camera market (DS/DVC) and higher end smartphones. In end-user language, it is a claim for

superior quality visuals for digital video cameras and top of the line mobile phones. The company sees its marketplace comfortably split between those end users who hold on to their cameras and those who turn to smartphones for neat imaging features. The newly announced high-resolution mobile sensors can capture 4K2K video. The 16-megapixel camera sensors are part-number dubbed the OV16820 and OV16825.

The OV16820 is offering consumers a high-resolution, feature-rich point and shoot photography experience. The OV16825 sensor provides stepped-up imaging and video recording capabilities for smartphones.

The technology story behind the sensors centers on the use of "OmniBSI-2" pixel architecture. OmniBSI-2 is defined by the company as the next generation of OmniVision's backside illumination (BSI) technology. OmniBSI-2 is built on a 300 mm copper process at 65 nm design rules. The technology was developed in cooperation with its manufacturing partner, Taiwan Semiconductor Manufacturing Company.

OmniVision sees its copper process as a turning point. "Migrating to a 300 mm copper process enabled substantially improved design rules and more advanced process tools, resulting in tighter process control and improved defect density," according to the company. Among the reported gains are better low-light sensitivity and significantly improved dark current and full-well capacity. OmniBSI-2's pixel design rules also enabled the company to present better isolation, and significantly reduced crosstalk.

The sensors can shoot either at 4608 x 3456 at 30 frames per second or 3840 x 2160 at 60 frames per second and can run in burst photography mode at 16-megapixel resolution.

The OV16820 is available for sampling in a ceramic land grid array (CLGA) package. The OV16825 will be available in die form (RW/COB). Both are expected to enter volume production by the fourth quarter of this year.

Explaining the move, “It was an industry-wide assumption that smartphones would cut into DSC/DVC (digital still and video camera) sales; but at higher resolutions, we’re seeing a very distinct divide between the two markets and both remain strong,” Devang Patel, senior product marketing manager at OmniVision, said.

The company has seen the shift in consumer wants toward small profile, highly portable flash-based video cameras that offer high quality image capture and HD video. They have recognized social media and video-sharing platforms such as YouTube and Facebook drive demand for high-quality recording devices offering HD. They also see consumer preference towards owning one device that can capture the best still and HD video images.

OmniVision Technologies designs, develops and markets semiconductor image-sensor devices. The company has pursued recognition as a supplier capable of products that enable image capture at higher resolutions, lower light levels, with better image quality, and in less space.

More information: Press release