



Teledyne e2v's Emerald 12M and 16M image sensors enter mass production

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September 5, 2018 — [Teledyne e2v](#), a Teledyne Technologies company and global innovator of imaging solutions, announces that its Emerald 12M and 16M CMOS image sensors, developed for optical inspection and factory automation, have now gone into mass production and are available for high volume purchase.

These two sensors are members of Teledyne e2v's Emerald family and feature a small 2.8µm low-noise global shutter pixel, which is produced using a 110nm wafer manufacturing process from [TowerJazz](#) (TSEM), the global specialty foundry leader, in its Arai, Japan fab. This unique pixel architecture provides cutting edge performance whilst reducing the overall camera cost due to the smaller optical format.

Emerald 12M and 16M sensors provide customers with an unprecedented set of features and are both suitable for high-speed interface systems including USB 3.1 gen.2, 10GigE and Camera Link. Special features include HDR modes with up to 120dB dynamic range and also a unique ROI mode which allows multiple images to be captured, under different exposure conditions, in a single high resolution shot.

Both sensors also feature the same CLGA package, optical centre, readout structure and processing. Each sensor is available in two different speed grades (standard and high speed), which along with their pin-to-pin and register compatibilities, offers camera makers the versatility to address both resolution and speed within a single camera design.

Rafael Romay, Vice President of Professional Imaging at Teledyne e2v, said "We are delighted that Emerald 12M and 16M, the original members of our Emerald sensor family, are entering mass production. Both of these sensors have proved popular with machine vision customers due to their high levels of performance and the features embedded in them. We've recently expanded this successful family, with the addition of Emerald 67M, which provides customers with high speed and high resolution. "

Dr. Avi Strum, TowerJazz Senior Vice President and General Manager of CMOS Image Sensor Business Unit said, "Working together for over a decade, Teledyne e2v and TowerJazz have leveraged our combined expertise to bring to market top notch industrial sensors. The Emerald family is the newest, most advanced one based on our global shutter offering in 110nm with a state of the art small pixel of 2.8µm. We look forward to further collaboration with Teledyne e2v to serve the growing machine vision market."

For sample and evaluation kit requests or more information visit the [product webpage](#).

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Notes to Editors:

Teledyne e2v's innovations lead developments in healthcare, life sciences, space, transportation, defence and security and industrial markets.

Teledyne e2v's unique approach involves listening to the market and application challenges of customers and partnering with them to provide innovative standard, semi-custom or fully-custom imaging solutions, bringing increased value to their systems. For more information [www.e2v.com](#)

About Teledyne Imaging

Teledyne Imaging is a group of leading-edge technology companies aligned within the Teledyne brand. With unrivalled expertise across the electromagnetic spectrum and decades of experience, the group offers world-leading capabilities in sensing, signal generation and processing. The collective delivers innovative solutions to aerospace, defense, geospatial, machine and industrial vision, medical and life sciences, semiconductors and MEMS. For more information, visit [teledyneimaging.com](#).

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its subsidiaries operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures next-generation integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, medical and aerospace and defense. TowerJazz's advanced technology is comprised of a broad range of customizable process platforms such as: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides world-class design enablement for a quick and accurate design cycle as well as Transfer Optimization and development Process Services (TOPS) to IDMs and fabless companies that need to expand capacity. To provide multi-fab sourcing and extended capacity for its customers, TowerJazz operates two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm) and three facilities in Japan (two 200mm and one 300mm). For more information, please visit [www.towerjazz.com](#).