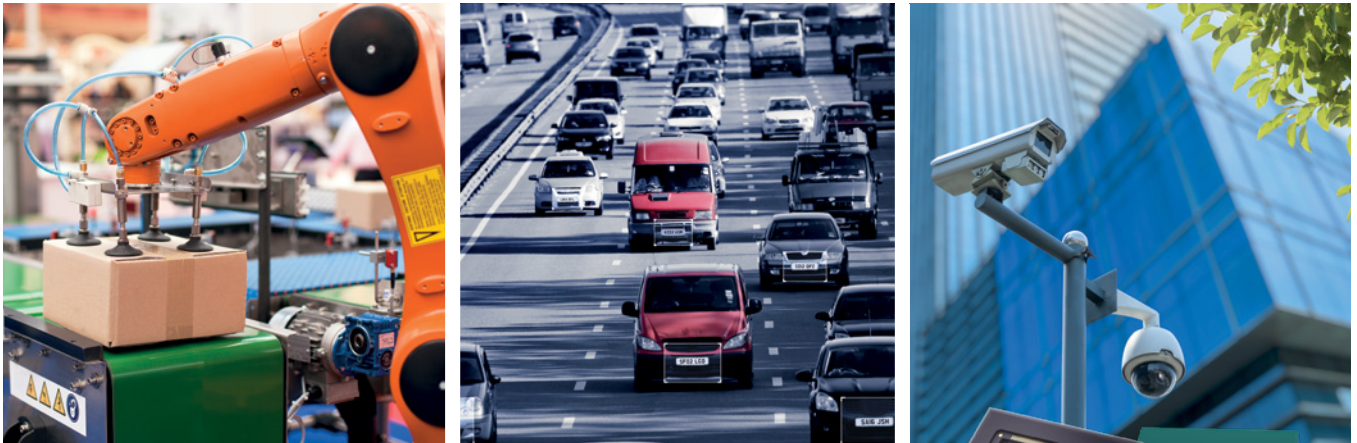


Emerald 3.2M & 5M

Empowering Embedded Vision



The Emerald family of sensors has been designed to match the unique requirements of machine vision and security applications. From pixel performance and features, to the MIPI output; every aspect of this product has been optimized to address the next challenges of embedded vision.

SENSOR FEATURES

<p>High precision 3.2 and 5 Megapixel resolutions</p>	<p>MIPI CSI-2 outputs to interface with leading edge ISP and FPGA</p>
<p>Combining speed and image quality with a single frame HDR mode</p>	<p>Reduced integration costs with its compact 1/1.8" and 1/2.5" optical formats</p>

CUSTOMER BENEFITS

<p>Accurate and fast operation enabling an improved detection/control ratio</p>	<p>Simultaneous verification tasks using a single sensor</p>
<p>Lighting system costs saving due to improved dynamic range</p>	<p>Seamless and cost-effective integration</p>



SENSOR CHARACTERISTICS

	EMERALD 3.2M	EMERALD 5M
Resolution – pixels	2,048 × 1,536	2,560 × 1,936
Aspect ratio	4:3	4:3
Frame rates @ 8-10 bit @ 12 bit	68 fps 50 fps	54 fps 40 fps
Size type	1"/2.5"	1"/1.8"
Pixel type / size – square	Global shutter/2.8 μm	
Readout noise	2.8 e-	
Full well capacity	6,970 e-	
Dynamic range	66 dB (normal mode) 100+ dB (HDR mode)	
SNRmax	38 dB	
Q.E. – %, @550nm	65	

SYSTEM INTEGRATION

- » Options:
 - Color Filter Array: B&W or color
 - Package: ceramic LGA 15 x 16mm² or organic fan-out BGA 12 x 14 mm²
 - Chief Ray Angle: 2 options available to ensure the perfect match with your optics
- » Optical center centered in package
- » Full compatibility with Emerald 2M (footprint, optical, electronic)
- » MIPI CSI-2, 1.2Gbps lanes (up to 4 lanes)
- » SPI/I2C (selectable) controls
- » Versatility between 8, 10 or 12 bit depth
- » Power consumption: <450W @ full speed & full resolution

EMBEDDED FEATURES

- » ROI (independent configurations allowed)
- » High Dynamic Range modes
- » Fast Self Exposure
- » Binning
- » Sub sampling
- » Look-up table
- » Defective pixel correction
- » Flipping/mirroring
- » Image statistics and context output
- » Multiple trigger modes

TYPICAL APPLICATIONS

- » Embedded vision systems
- » Factory automation
- » Intelligent transportation systems
- » Security cameras
- » Drones/UAVs

ORDER CODES – EMERALD 3.2M

	ORGANIC FAN-OUT		CERAMIC LGA	
	4° CRA	9.6° CRA	4° CRA	9.6° CRA
B&W	EV2S3M2B-OM20150-T	EV2S3M2B-OM20350-T	EV2S3M2B-CM20150-T	EV2S3M2B-CM20350-T
COLOR	EV2S3M2C-OM20150-T	EV2S3M2C-OM20350-T	EV2S3M2C-CM20150-T	EV2S3M2C-CM20350-T

ORDER CODES – EMERALD 5M

	ORGANIC FAN-OUT		CERAMIC LGA	
	5° CRA	12° CRA	5° CRA	12° CRA
B&W	EV2S05MB-OM20150-T	EV2S05MB-OM20350-T	EV2S05MB-CM20150-T	EV2S05MB-CM20350-T
COLOR	EV2S05MC-OM20150-T	EV2S05MC-OM20350-T	EV2S05MC-CM20150-T	EV2S05MC-CM20350-T