

Unique Embedded Features Combined with Small Global Shutter Pixel Technology

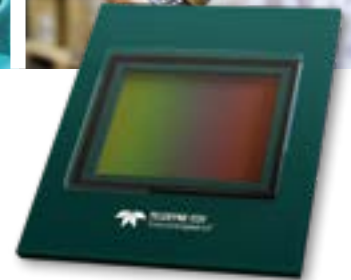


KEY BENEFITS

- » 2,560 x 1,936 low-noise global shutter CMOS pixels
- » Cost effective, with small optical format (1/1.8")
- » Embeds unique features for enhanced, cost-effective scanning applications (Fast Self Exposure mode, Smart ROI and multi-trigger modes)
- » Excellent SNR in low light (yields illumination system cost savings)
- » HDR modes for wide dynamic scenes (tolerant to light band reflection on curved reflective surfaces)
- » Powerful control of multiple simultaneous image regions enabled by single and multi-ROI modes
- » Fast and easy to integrate with a new lightweight fan-out organic package
- » MIPI CSI-2 outputs for glue-less embedded imaging systems

FEATURES

- » 2.8µm global shutter pixels
- » B&W and color with 12° and 0° CRA options
- » Above 56fps @8 bit, 50fps @10 bit and 35fps @12 bit (at full resolution)
- » Embedded features for barcode reading and other 2D scanning applications:
 - › Fast Self Exposure mode
 - › Smart ROI feature to automatically detect barcodes or character strings
- » MIPI CSI-2, 1.2MB/s lanes (up to 4 lanes selectable down to a single lane)
- » SPI and I2C control (selectable) with 4 x chip addresses for multiple sensor platforms
- » 3.3V, 1.2V power supplies
- » Package: 138 pins Fan-out organic BGA package (FO-OP)



Teledyne e2v has launched its ground breaking new Snappy family of CMOS image sensors featuring a small global shutter pixel (2.8µm) for cost efficiency with no sacrifice of performance.

The Snappy family of sensors has been designed to match the unique requirements of barcode reading and other 2D scanning applications. From pixel performance, to integrated real-time features, to the MIPI output; every aspect of this product has been optimized to take barcode reading to the next level. It enables scanning end-products to enhance productivity and throughput in logistics, sorting, retail POS, and many other industrial sectors.

The sensors include our patented Smart ROI feature, which searches for barcodes in the image frame, and reports their locations as metadata in the image footer. The regions of the image containing barcodes are discerned from the background image to considerably reduce downstream image processing (FPGA/CPU/DSP) power, time and cost. Up to 16 different regions can be detected simultaneously.

Snappy 5MP is derived from our Snappy 2MP sensor and part of an expanding family of sensors with identical S/W and H/W requirements. This brings further cost savings by enabling a complete range of scanners/cameras at different resolutions from a single design effort.

TYPICAL APPLICATIONS

- » Long range barcode scanners
- » Embedded vision systems
- » IoT edge devices
- » Drones/UAV
- » Virtual reality/augmented reality
- » PTZ and panoramic security cameras

SENSOR CHARACTERISTICS

	SNAPPY 5MP		
Resolution – pixels	2,560 x 1,936		
Pixel size – square	2.8µ		
Size type – inch	1 / 1.8		
Aspect ratio	4:3		
Max frame rate	>56fps @8 bit	>50fps @10 bit	>35fps @12 bit
Bit depth	8/10/12		
Readout noise – e-	3		
Qsat – e-	> 7,000		
Dynamic range – dB	65 (normal mode) 100+ (HDR mode)		
SNRmax – dB	>39		
Q.E. – %, @550nm	>62		

ORDER CODES – PRODUCTION

- » EV2S05MB-OM20300-T Snappy 5MP: B&W, Fan-out organic, CRA 12°, Tray = 119 units
- » EV2S05MC-OM20300-T Snappy 5MP: Color, Fan-out organic, CRA 12°, Tray = 119 units
- » EV2S05MB-OM20000-T Snappy 5MP: B&W, Fan-out organic, CRA 0°, Tray = 119 units
- » EV2S05MC-OM20000-T Snappy 5MP: Color, Fan-out organic, CRA 0°, Tray = 119 units

ORDER CODES – SAMPLES

- » EV2S05MB-OM20300-P Snappy 5MP: B&W, Fan-out organic, CRA 12°, TRAY = 2 units
- » EVS05MC-OM20300-P Snappy 5MP: Color, Fan-out organic, CRA 12°, TRAY = 2 units