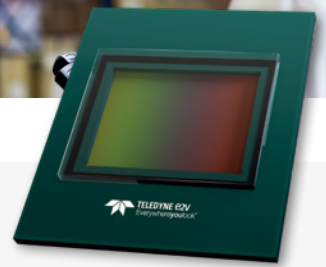


UNIQUE EMBEDDED FEATURES COMBINED WITH SMALL GLOBAL SHUTTER PIXEL TECHNOLOGY



Teledyne e2v has launched its ground breaking new Snappy family of CMOS image sensors featuring a small global shutter pixel (2.8 μm) 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 with identical S/W and H/W requirements. This brings further cost savings by enabling a range of scanners/cameras at different resolutions from a single design effort.

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

- 2.8 μm global shutter pixels
- B&W and color with 12° and 5° CRA options
- Above 54 fps @8 bit and 10 bit, up to 40 fps @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, 1.2Gb/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 glass substrate (FO-GS)



Sensor Characteristics

		SNAPPY 5MP		
Resolution – pixels	2,560 x 1,936			
Pixel size – square	2.8 µm			
Size type – inch	1 / 1.8			
Aspect ratio	4:3			
Max frame rate	>54 fps @8 bit	>54 fps @ 10 bit	>40 fps @ 12 bit	
Bit depth	8/10/12			
Readout noise – e-	2.8			
Qsat – e-	7,000			
Dynamic range – dB	68 (normal mode) 100+ (HDR mode)			
SNRmax – dB	>38			
Q.E. – %, @550nm	>62			

TYPICAL APPLICATIONS

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

ORDER CODES – PRODUCTION

EV2S05MB-FM20300-T
Snappy 5MP: B&W, Fan-out
glass, CRA 12°, Tray = 119 units

EV2S05MC-FM20300-T
Snappy 5MP: Color, Fan-out
glass, CRA 12°, Tray = 119 units

EV2S05MB-FM20100-T
Snappy 5MP: B&W, Fan-out
glass, CRA 5°, Tray = 119 units

EV2S05MC-FM20100-T
Snappy 5MP: Color, Fan-out
glass, CRA 5°, Tray = 119 units

ORDER CODES – EVALUATION KITS

EV2E05MB-FU3D300-U
EK Snappy 2MP: Mono, CRA 12°
USB3-C, Fan-out glass

EV2E05MC-FU3D300-U
EK Snappy 2MP: Color, CRA 12°
USB3-C, Fan-out glass

EV2E05MB-FU3D150-U
EK Snappy 2MP: Mono, CRA 5°
USB3-C, Fan-out glass

EV2E05MC-FU3D150-U
EK Snappy 2MP: Color, CRA 5°
USB3-C, Fan-out glass