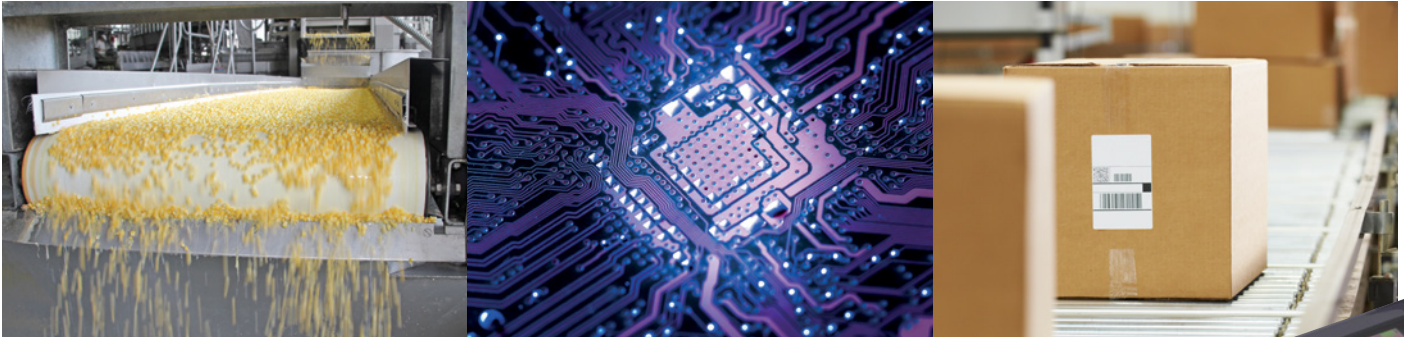


TETRA RGB + NIR IMAGING SENSOR



Tetra is a low-cost, high-performance quadlinear CMOS sensor family from Teledyne e2v. This sensor is ideal for food sorting, mineral sorting, recycling, logistics, pick and place, and other machine vision applications that require cost-effective mono, color, and multispectral imaging.

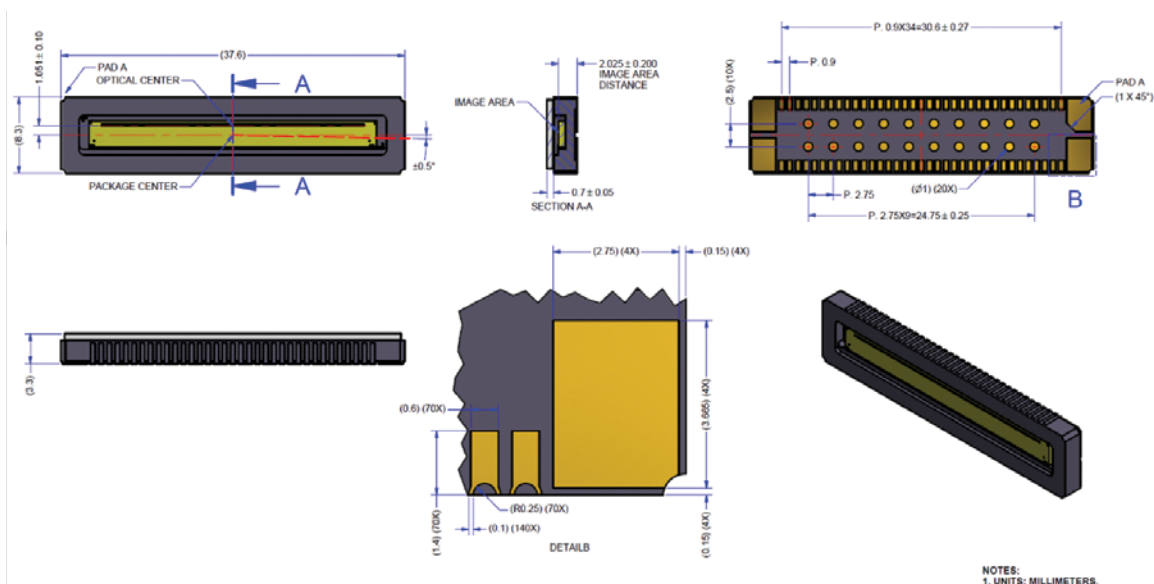
The sensor has a resolution of 2,048 x 4 pixels with a 14 x 14 μm pixel size and runs at a maximum line rate of 25 kHz x 4 (100 kHz max aggregate). The sensor has spectrally independent outputs of Red, Green, Blue, and Near Infrared (RGB + NIR) with wafer level coated dichroic filters. Based on a synchronized shutter design, the sensor provides low read noise and high dynamic range through the use of digital Correlated Double Sampling (CDS).



Each color channel has its own exposure control, resulting in easy-to-perform white balancing.

The ceramic LCC package offers high performance and high reliability over a wide range of operating temperatures. The sensor data ports have high signal integrity and simple interfacing for quick system integration.

MECHANICAL DRAWING



Sensor Characteristics

EV1S02KM-CLV0150-T

Line Rate – Maximum	25 kHz x 4
Output – Digital LVDS	12-bits
Resolution	2048 x 4 pixels
Pixel Size – Square	14 x 14 μm
Random Noise	7.8 e-
Dynamic Range	71 dB
Conversion Gain	0.14 DN ₁₂ /e-
Full Well	29 ke-
Shutter Type	Synchronized shutter
Responsivity – @ 12 bits, peak	430 (R), 340 (G), 220 (B), 180 (NIR) DN ₁₂ / (nJ/cm ²)
Power Consumption	1 W
Operating Temperature	0 to +60 °C
Package	Ceramic LCC
Regulatory Compliance	RoHS

KEY ELEMENTS

- Spectrally independent RGB + NIR channels
- High speed 25 kHz x 4 maximum line rate
- Low noise, high responsivity, high full well
- 100% fill factor
- Independent exposure control for each channel
- Ease of integration
- Low cost

TYPICAL APPLICATIONS

- Food Sorting
- Mineral Sorting
- Recycling
- Machine Vision

