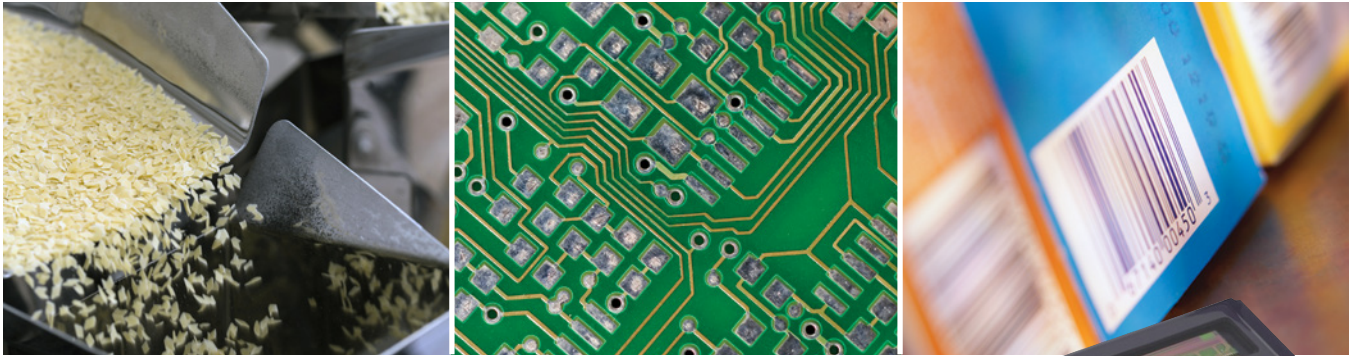


Tetra Multispectral Imaging Sensor



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.

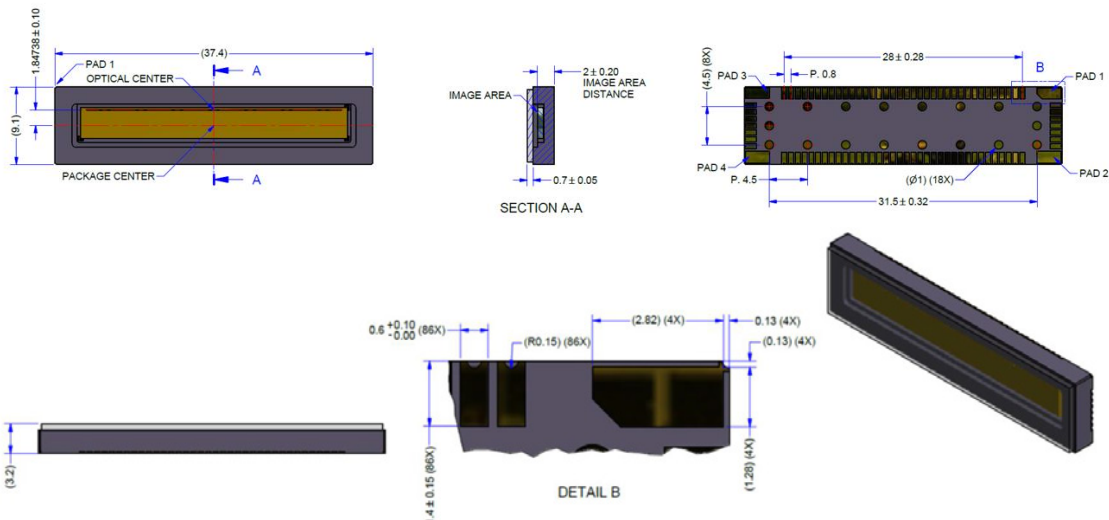
The multispectral sensor has a resolution of 4,096 x 4 pixels with a 7 x 7 μm pixel size and runs at a maximum line rate of 32 kHz x 4. Based on a synchronized shutter design, the sensor provides low read noise and high dynamic range through the use of digital Correlated Double Sampling (CDS).



It has independent exposure control for each row that can be used to achieve 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



4K QUADLINEAR CMOS SENSOR

EV1S04KM-CLV0150-T

Multispectral

SENSOR CHARACTERISTICS

EV1S04KM-CLV0150-T

Line Rate – Maximum	32 kHz x 4
Output – Digital LVDS	12-bits
Resolution	4096 x 4 pixels
Pixel Size – Square	7 x 7 μm
Random Noise	8.5 e-
Dynamic Range	71.5 dB
Conversion Gain	0.13 DN ₁₂ /e-
Full Well	31.5 ke-
Shutter Type	Synchronized shutter
Responsivity – @ 12 bits, peak	105 (R), 90(G), 55 (B), 50 (NIR) DN ₁₂ / (nJ/cm ²)
Power Consumption	1.7 W
Operating Temperature	-10 to +60°C
Package	Ceramic LCC
Regulatory Compliance	RoHS

KEY ELEMENTS

- » Spectrally independent RGB + NIR channels
- » High speed: 32 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 and Mineral Sorting
- » Recycling
- » Logistics
- » Pick and Place
- » Machine Vision

