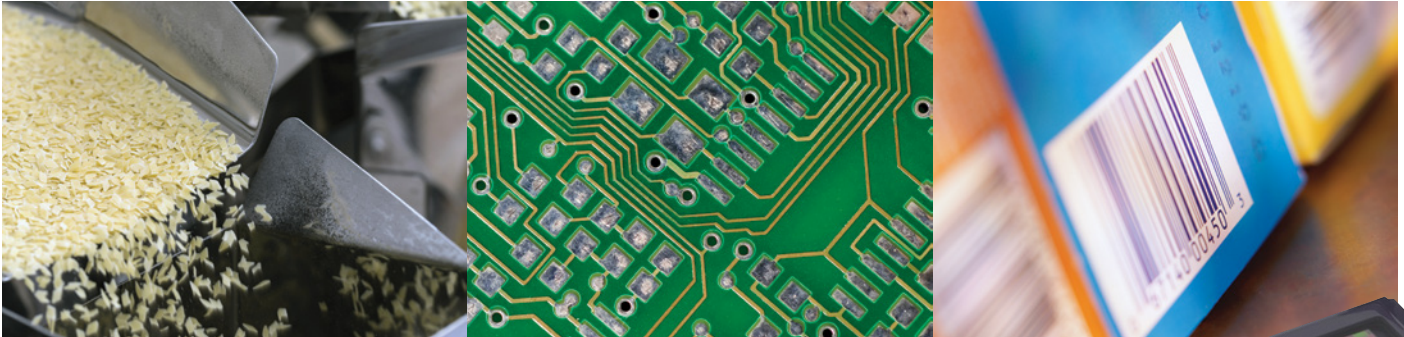


TETRA MONOCHROME IMAGING SENSOR



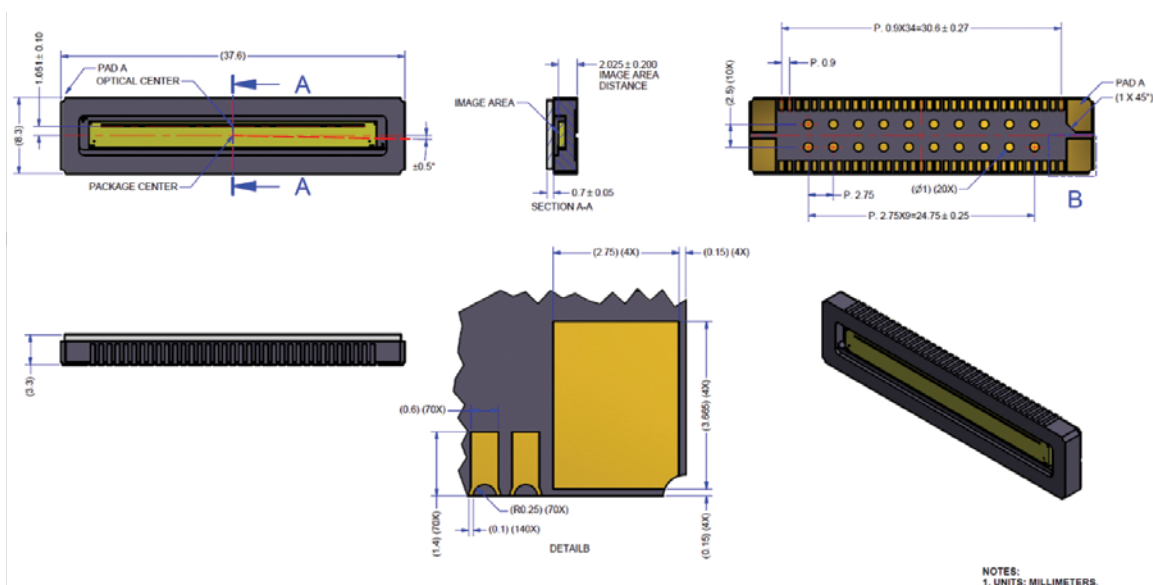
Tetra is a low-cost, high-performance quadlinear CMOS sensor family from Teledyne e2v. This sensor is ideal for food sorting, mineral sorting, recycling, logistics, pick and place, and other machine vision applications that require cost-effective mono, color, and multispectral imaging.

The sensor has a resolution of 2,048 x 4 pixels with a 14 μm x 14 μm pixel size and runs at a maximum line rate of 100 kHz aggregate. The sensor can be set to outputs one, two, or four rows depending on application requirements. 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 high dynamic range imaging.

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

EV1S02KB-CLV0100-T

Line Rate – Maximum	100 kHz, one row / 50 kHz x 2, two rows / 25 kHz x 4, four rows
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	500 DN ₁₂ / (nJ/cm ²), one row
Power Consumption	1 W
Operating Temperature	0 to +60 °C
Package	Ceramic LCC
Regulatory Compliance	RoHS

KEY ELEMENTS

- Selectable 1, 2 or 4 pixel rows
- High speed: 100 kHz maximum aggregate
- Low noise, high responsivity, high full well
- 100% fill factor
- Independent exposure control for each row for high dynamic range imaging
- Ease of integration
- Low cost

TYPICAL APPLICATIONS

- Sorting
- Logistics
- Pick and place
- Machine Vision

