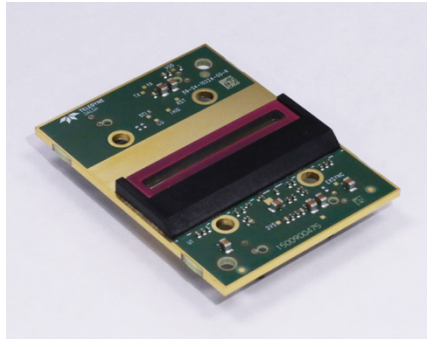


IT-K3-04120

4K Single Line Monochrome CMOS Imaging Sensor



A Fast and Responsive 4K Single Line Monochrome CMOS Imaging Sensor

The IT-K3-04120 sensor is a high performance, digital, single line scan monochrome CMOS image sensor. The sensor is optimized for a high line rate and low noise, while providing high responsivity and high quantum efficiency (QE). The sensor is designed for ease-of-integration and uses FR4 packaging.

The pixel features global shutter capability, 100% fill factor, and true correlated double sampling (CDS) for low noise.

FR4 packaging offers high signal integrity and simple interfacing for quick system integration. The interface consists of two 60-pin connectors, which contain input signals, such as EXSYNC (trigger), clocks and voltages, and output signals, such as data and strobe (s-LVDS). Access to the registers of the sensor is handled through a serial-peripheral interface (SPI), plus the temperature of the sensor can be monitored.

The two 60-pin connectors on the IT-K3 share the same electrical and mechanical interface with the entire IT-K and IT-L sensor series, whereby the two 60-pin connectors and four mounting holes are positioned identically relative to one another as well as pin compatibility.

Key Features

- High speed: 70 kHz
- 100 % fill factor
- Low noise
- Ease of integration
- Common electrical and mechanical interface

Typical Applications

- Web inspection
- Recycling
- Document scanning

Specifications

Line Rate	70 kHz, maximum
Output	12-bit digital LVDS
Resolution	4120 x 1 (4k single line)
Pixel Size	7.04 μm x 7.04 μm
Random Noise	1.9 DN
Dynamic Range	66 dB
Conversion Gain	0.20 DN/e
Full Well	19 ke
Shutter Type	Global shutter
Responsivity	210 DN / nJ / cm ² @ 12-bit, peak
Power Consumption	2 W
Operating Temperature	0° to +60°C
Package	FR4
Regulatory Compliance	RoHS

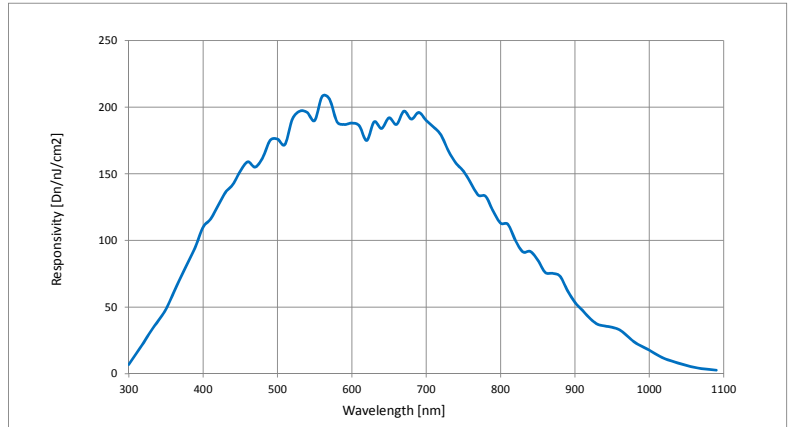
Models

Part Number	Resolution	Maximum Line Rates	Pixel Size
IT-K3-04120-00-R	4120 x 1	70 kHz	7.04 μm x 7.04 μm

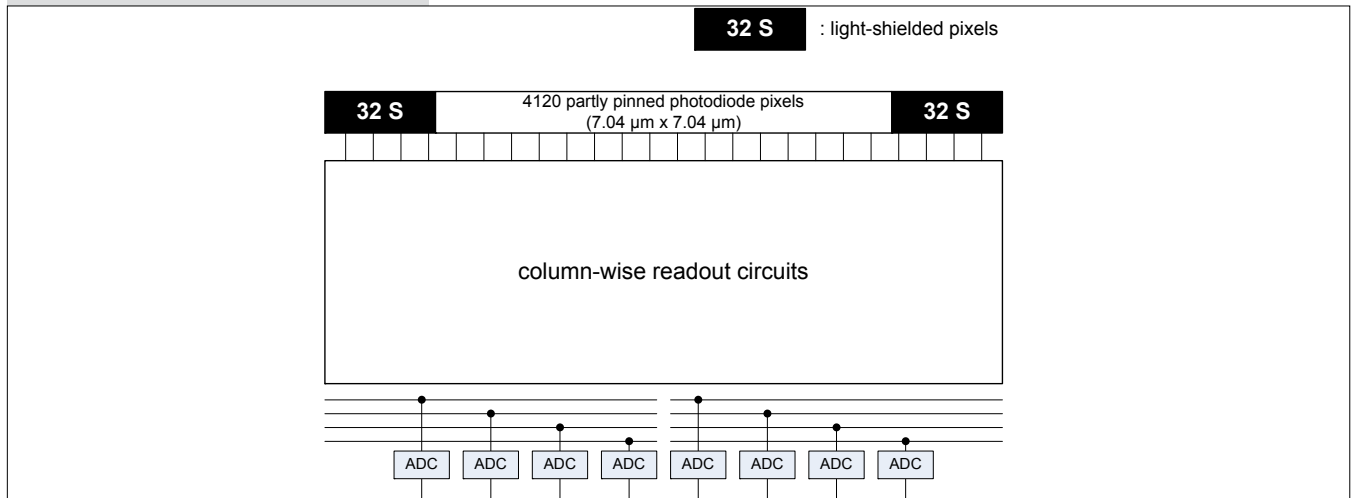
Camera part number for sensor evaluation: LA-CM-04K08

IT-K3-04120

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Note: Savitsky-Golay filtering applied, with 40 nm window and 1st order polynomial.



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About Teledyne DALSA

Teledyne DALSA is an international high performance semiconductor and electronics company that designs, develops, manufactures, and markets digital imaging products and solutions, in addition to providing wafer foundry services.

Teledyne DALSA Digital Imaging offers the widest range of machine vision components in the world. From industry-leading image sensors through powerful and sophisticated cameras, frame grabbers, vision processors and software to easy-to-use vision appliances and custom vision modules.

Teledyne DALSA is headquartered in Waterloo, Ontario, Canada. We have sales offices in the USA, Europe and Asia, plus a worldwide network of representatives and agents to serve you efficiently.

www.teledynedalsa.com

Americas

Boston, USA
+1 978-670-2000
sales.americas@teledynedalsa.com

Europe

Krailling, Germany
+49 89-89-54-57-3-80
sales.europe@teledynedalsa.com

Asia Pacific

Tokyo, Japan
+81 3-5960-6353
sales.asia@teledynedalsa.com

Shanghai, China
+86 21-6427-9081
sales.asia@teledynedalsa.com

Revision number 03-070-20106-00.
Revision date October 31, 2016.