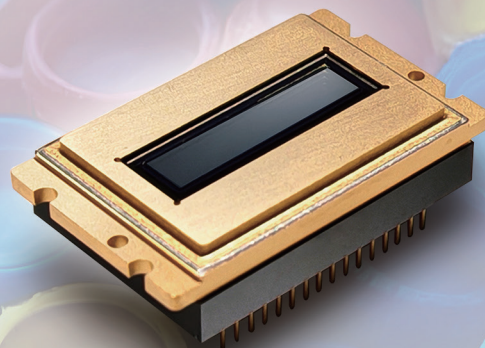
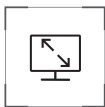




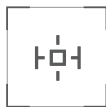
RL01K1/RL5122-H1

Short-Wave Infrared Linear Array Detector

The short-wave infrared linear array is based on advanced InGaAs sensor technology and supports two array sizes, 1024×1 and 512×2 , with pixel pitches of $12.5\mu\text{m}$ and $25\mu\text{m}$ respectively. It has a response spectrum range of $0.9\text{-}1.7\mu\text{m}$. The detector is housed in a metal-ceramic integrated package with a built-in single-stage TEC. It features selectable resolution, high line rate, low noise, and a wide dynamic range, making it suitable for applications such as resource recycling, agricultural product sorting, photovoltaic inspection, and machine vision.



Selectable
Resolution



High Sensitivity



Built-in TEC



Line Frequency
Up to 36kHz

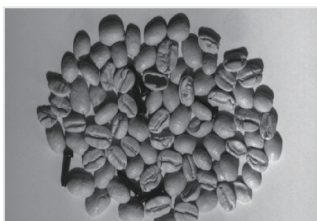


Wide Dynamic
Range

Product Imaging



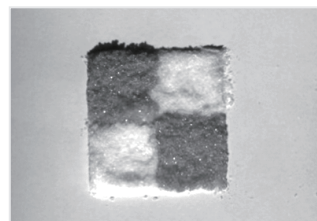
Coffee Beans and
Impurities (Visible Light)



Coffee Beans and
Impurities (Short-Wave)



Sugar and Salt
(Visible Light)

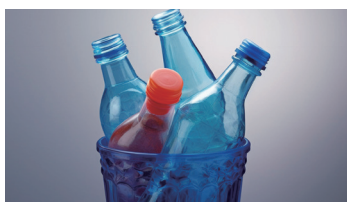


Sugar and Salt
(Short-Wave)

Specifications

Product Model	RL01K1/RL5122-H1	
Sensor	InGaAs	
Spectral Response Range	0.9~1.7μm	
Quantum Efficiency	>70%(1.0~1.6μm)	
Optical Fill Factor	100%	
Pixel Pitch	12.5μm	25μm
Area Array Size	1024×1	512×2
Effective Pixel Rate	≥99.8%	
Maximum Output Line Frequency	36kHz	
Readout Mode	ITR, IWR	
Minimum Integration Time	15μs	
Readout Noise (Typical)	50e@ 1~36kHz,20°C	
Optional Gain	≥4 level	
Average Pixel Dark Current	≤500ke/s@20°C	
Operating Power Consumption	≤200mW	
Signal Output Swing	1.9±0.1V	
Dynamic Range	≥58dB	
Response Inhomogeneity	≤5%, non-corrected	
Packaging Type	Metal-ceramic integration with hermetic packaging (built-in single-stage TEC)	
Overall Dimensions (Excluding pin size)	25.5mm×17.7mm×6.7mm	
Device Weight	~8g	
Operating Environment Temperature	-40°C~+60°C	
Storage Environment Temperature	-45°C~+70°C	

Applications



Resource Recovery



Grain Sorting



Photovoltaic Inspection



Machine Vision

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