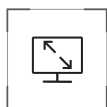


RL01K1/RL5122-H1S00

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 12.5μm and 25μm respectively. It has a response spectrum range of 0.9-1.7μm. 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

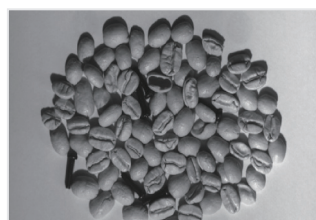


Wide Dynamic Range

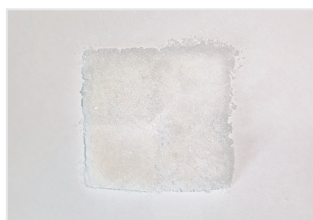
Product Imaging



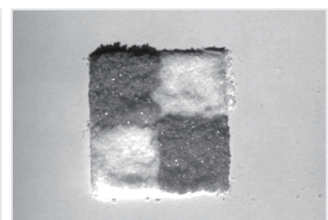
Coffee Beans and Impurities (Visible Light)



Coffee Beans and Impurities (Short-Wave)



Sugar and Salt (Visible Light)



Sugar and Salt (Short-Wave)

Specifications

Technical Specifications	RL01K1/RL5122-H1S00	
Sensor	InGaAs	
Spectral Response Range	0.9 - 1.7 μ m	
Quantum Efficiency	>70% (1.0 μ m - 1.6 μ m)	
Optical Fill Factor	100%	
Pixel Pitch	12.5 μ m	25 μ m
Linear Array Size	1024 \times 1	512 \times 2
Effective Pixel Rate	\geq 99.8%	
Maximum Output Line Frequency	36kHz	
Readout Mode	ITR, IWR	
Minimum Integration Time	15 μ s	
Readout Noise (Typical)	50e@1-36kHz, 20 $^{\circ}$ C	
Optional Gain	\geq 4-level	
Average Pixel Dark Current	\leq 100ke/s@20 $^{\circ}$ C	\leq 300ke/s@20 $^{\circ}$ C
Operating Power Consumption	\leq 200mW	
Output Signal Swing	1.9 \pm 0.1V	
Dynamic Range	\geq 58dB	
Response Inhomogeneity	\leq 5%, non-corrected	
Packaging Type	Metal-ceramic integration with hermetic packaging (Built-in Single-Stage TEC)	
Outline Dimensions(Excluding pin size)	25.5 \times 17.7 \times 6.7mm ³	
Device Weight	~8g	
Operating Environment Temperature	-40 $^{\circ}$ C - +60 $^{\circ}$ C	
Storage Environment Temperature	-45 $^{\circ}$ C - +70 $^{\circ}$ C	

■ This information is for reference only. Images and technical specifications are subject to change without notice.

Applications



Company Profile

Raytron Microelectronics Co., Ltd. is a wholly-owned subsidiary of Raytron Technology Co., Ltd., providing global customers with infrared detectors, core modules, and industry solutions.

Our products are widely used in various fields, including infrared temperature measurement, night vision observation, machine vision, intelligent driving, Commercial Drone, smart industry, security monitoring, Internet of Things, medical epidemic prevention and gas detection.

With the mission of "to create incremental value for customers with technological advancements", we are committed to leaving a name in the history of constantly expanding human perception capabilities.



Official Website



LinkedIn Official Account

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