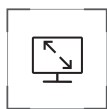


RL01K1-C0

Short-Wave Infrared Linear Array Detector

The short-wave infrared linear array is based on advanced InGaAs sensor technology, with an array size of 1024×1, a pixel pitch of 12.5μm, and a response spectrum range of 0.9-1.7μm. This linear array detector uses a TECless ceramic package and features high resolution, high line rate, low noise, and SWaP (Size, Weight, and Power) characteristics. It can be widely used in applications such as agricultural product sorting, resource recycling, industrial sorting, photovoltaic inspection, and machine vision.



High Resolution



High Sensitivity



Compact and
Low Power
Consumption



Line Frequency
Up to 36kHz

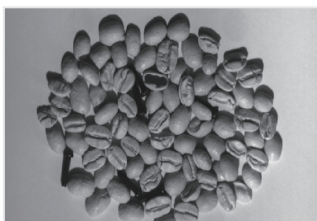


Wide Dynamic
Range

Product Imaging



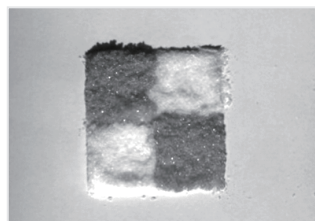
Coffee Beans and Impurities
(Visible Light)



Coffee Beans and Impurities
(Short-Wave)



Sugar and Salt (Visible
Light)



Sugar and Salt
(Short-Wave)

Specifications

Technical Specifications	RL01K1-C0
Sensor	InGaAs
Spectral Response Range	0.9 μ m - 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
Area Array Size	1024 \times 1
Effective Pixel Rate	> 99.8%
Maximum Output Line Frequency	36kHz
Readout Mode	ITR, IWR
Minimum Integration Time	15 μ s
Readout Noise (Typical)	\leq 50e@1-36kHz, 20 $^{\circ}$ C
Optional Gain	\geq 4-level
Average Pixel Dark Current	\leq 100ke/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	PGA ceramic packaging (TECless)
Outline Dimensions(Excluding pin size)	28.91 \times 18.64 \times 4.0mm ³
Device Weight	8 \pm 2g
Operating Environment Temperature	-20 $^{\circ}$ C - +50 $^{\circ}$ C
Storage Environment Temperature	-40 $^{\circ}$ C - +60 $^{\circ}$ 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



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