Kodak
Image Sensor Solutions

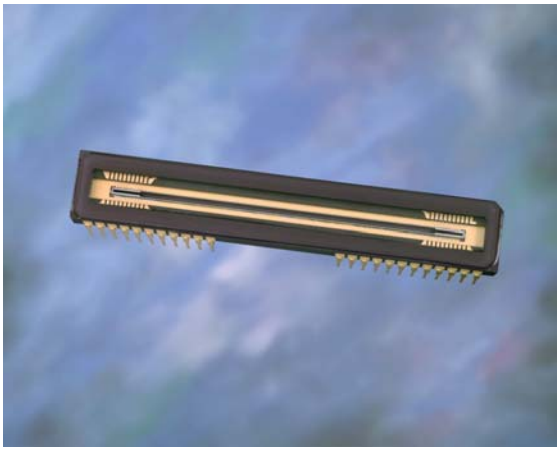
PRODUCT SUMMARY

KODAK KLI-4104 IMAGE SENSOR

IMAGE SENSOR QUADRI-LINEAR CCD

DESCRIPTION

The KODAK KLI-4104 Image Sensor is a multi-spectral, linear solid-state image sensor for color scanning applications where fast high resolution is required. The imager consists of three parallel linear photodiode arrays, each with 4080 active photosites for the output of R, G, and B signals. The sensor contains a fourth channel for luminance information. This array has 8160 pixels segmented to transfer out data through one of four luminance outputs. This device offers high sensitivity, high data rates, low noise and negligible lag. Individual electronic exposure control for each of the Chroma and the Luma channel is provided, allowing the KLI-4104 sensor to be used under a variety of illumination conditions.



FEATURES

- Quad-linear array (G, R, B, L)
- High resolution: Luma (monochrome) array with 5um pixels with 8160 count.
- Luma channel has 4 outputs approaching 120MHz data rate
- High resolution: color (RGB) array with 10um pixels with 4080 count.
- Each color channel has 1 output approaching 30MHz data rate
- No Image Lag
- Two-Phase Register Clocking
- On-ship Dark Reference
- Electronic exposure control

APPLICATIONS

- Document scanning
- Industrial machine vision
- High resolution inspection

Parameter	Value
Total Number of Pixels	3x4134 Chroma, 1x8292 Luma
Number of Effective Pixels	3x4128 Chroma, 1x8276 Luma
Number of Active Pixels	3x4080 Chroma, 1x8160 Luma
Pixel Size	10 µm (H) x 10 µm (V) Chroma, 5 µm (H) x 5 µm (V) Luma
Pixel Pitch	10 µm Chroma, 5 µm Luma
Inter-Array Spacing, G to R, R to B B to L	90 µm (9 lines effective) 122.5 µm (12.25 lines effective)
Chip Size	50.5 mm (H) x 1.1 mm (V)
Saturation Signal	121,000 electrons Chroma, 110,000 electrons Luma
Quantum Efficiency	62%(B), 62%(G), 80%(R), 85%(L)
Output Sensitivity	Chroma -14 µV/electron Luma -11 µV/electron
Responsivity (R/G/B/L)	17(B), 20(G), 32(R), 27(L) V/µJ/cm^2
Total Read Noise	120 electrons
Dark Current	Chroma 0.007 pA/pixel Luma 0.0008 pA/pixel
Dark Current Doubling Temperature	9ºC
Dynamic Range @ 30 MHz Data Rate	60 dB (chroma) 60 dB (luma)
Photoresponse Non-uniformity	5% Peak-Peak
Charge Transfer Efficiency	0.99999/Transfer
Total Number of Pixels	3x4134 Chroma 1x8292 Luma

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ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0442	KLI- 4104-AAA-CB-AA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade	KLI-4104-A (Lot Number Serial Number)
4H0443	KLI- 4104-AAA-CB-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Sample	
4H0440	KLI- 4104-AAA-CP-AA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade	
4H0441	KLI- 4104-AAA-CP-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample	
4H0393	KLI- 4104-DAA-CB-AA	Color (RGB), No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade	KLI-4104-A (Lot Number Serial Number)
4H0394	KLI- 4104-DAA-CB-AE	Color (RGB), No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Sample	
4H0294	KLI- 4104-DAA-CP-AA	Color (RGB), No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade	
4H0295	KLI- 4104-DAA-CP-AE	Color (RGB), No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample	
4H0349	KEK-4H0349-KLI-4104-12-30	Evaluation Board (Complete Kit)	

Please see ISS Application Note "Product Naming Convention" (MTD/PS-0892) for a full description of naming convention used for KODAK image sensors.

For all reference documentation, please visit our Web Site at www.kodak.com/go/imagers.

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