

## PRODUCT SUMMARY

### KODAK KLI-2104 IMAGE SENSOR

#### 2098 X 3 / 4196 X 1 QUADRILINEAR CCD IMAGE SENSOR

#### DESCRIPTION

The KODAK KLI-2104 Image Sensor is a high dynamic range, multi-spectral, linear solid-state image sensor designed for demanding color scanning applications.

The KLI-2104 contains three parallel linear photodiode arrays, each with 2098 active photosites for the detection of R, G, and B signals. A fourth channel, comprised of 4196 pixels, provides high resolution luminance information. This combination allows the KLI-2104 to provide high resolution scans with accurate color reproduction.

The device offers high sensitivity, low noise, and negligible lag.

#### FEATURES

- Quadri-Linear Color Array design (G, R, B, L) for high resolution with accurate color reproduction
- High sensitivity photosites
- Low noise design with negligible image lag
- Pixel-summing support for extended sensitivity and dynamic range
- 5.0 V clock inputs with two-phase register clocking
- Choice of Multi-layer Antireflective Coated (MAR) or Clear Coverglass

#### APPLICATIONS

- Document and image scanning
- Industrial machine vision
- Scientific imaging



Parameter	Value
Architecture	Quadrilinear CCD
Total Number of Pixels Chroma; Luma	3 x 2222; 1 x 4244
Number of Active Pixels Chroma; Luma	3 x 2098; 1 x 4196
Pixel Size (Chroma; Luma)	14 $\mu\text{m}$ ; 7 $\mu\text{m}$
Inter-Array Spacing G to R, R to B B to L	84 $\mu\text{m}$ 87.5 $\mu\text{m}$
Chip Size	35.64 mm (H) x 1.06 mm (V)
Saturation Signal Chroma Luma	208,000 electrons 140,000 electrons
Output Sensitivity	12 $\mu\text{V}/\text{electron}$
Peak Quantum Efficiency R; G; B; L	73%; 55%; 62%; 88%
Responsivity (R; G; B; L)	33; 36; 56; 16 $\text{V}/\mu\text{J}/\text{cm}^2$
Total Read Noise	30 electrons
Dark Current Chroma; Luma	0.22 pA/pixel; 0.07 pA/pixel
Dynamic Range Chroma; Luma	80 dB; 75 dB
Charge Transfer Efficiency	0.99999
Photoresponse Non-uniformity	15% Peak-Peak
Operating Frequency	20MHz per output
Package	Ceramic PGA
Cover Glass Options	MAR coated, 2 sides

All parameters are specified at T = 25° C unless otherwise noted.

**ORDERING INFORMATION**

<b>Catalog Number</b>	<b>Product Name</b>	<b>Description</b>	<b>Marking Code</b>
4H0497	KLI- 2104-DAA-EB-AA	Color (RGB), No Microlens, CERDIP Package (leadframe), Clear Cover Glass (no coatings), Standard Grade	KLI-2104 Serial Number
4H0499	KLI- 2104-DAA-EB-AE	Color (RGB), No Microlens, CERDIP Package (leadframe), Clear Cover Glass (no coatings), Engineering Grade	
4H0496	KLI- 2104-DAA-ED-AA	Color (RGB), No Microlens, CERDIP Package (leadframe), Clear Cover Glass with AR coating (both sides), Standard Grade	
4H0498	KLI- 2104-DAA-ED-AE	Color (RGB), No Microlens, CERDIP Package (leadframe), Clear Cover Glass with AR coating (both sides), Engineering Grade	

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](http://www.kodak.com/go/imagers).

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